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INDUSTRIAL WORK PUBLIC SCHOOLS

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INDUSTRIAL WORK
for
PUBLIC SCHOOLS



An Indian stitch basket

INDUSTRIAL WORK *for* PUBLIC SCHOOLS

By MARTHA ADELAIDE HOLTON
*Formerly Supervisor of Primary and Industrial Work,
Minneapolis, Minnesota, Author of*

ALICE F. ROLLINS
Principal of the Sheridan
School, Minneapolis,
Minnesota

*With Eighty
Illustrations in Half-tone*

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FOREWORD

“**E**DUCATIVE all-round manual training develops the habit and skill for all-sided work; it makes the worker capable of doing new tasks and studying new conditions.”

The industrial work suggested in this book has been thoroughly tested and is based upon practical experience.

Many mediums are advised because a variety in material and processes is desirable. Construction in cardboard and paper is valuable, and accuracy, symmetry, and regularity are its characteristics; but other kinds of work that express different elements, such as freedom, grace, originality, judgment, reasoning, and designing, are equally good, and they should be a part of the hand-work of all schools.

Clay modeling is the best possible beginning of an interest in art and its evolution. So reed-weaving, rug-making, raffia work, whittling, sewing, and iron work each has its particular value, and fortunate is the little one who has all these avenues open to him in the public schools.

Grateful acknowledgment is made to the teachers, principals, and supervisors of the Minneapolis schools who have assisted in the practical demonstration of this course of industrial work, and also to the publishers of the poems and other quotations used.

May, 1904.

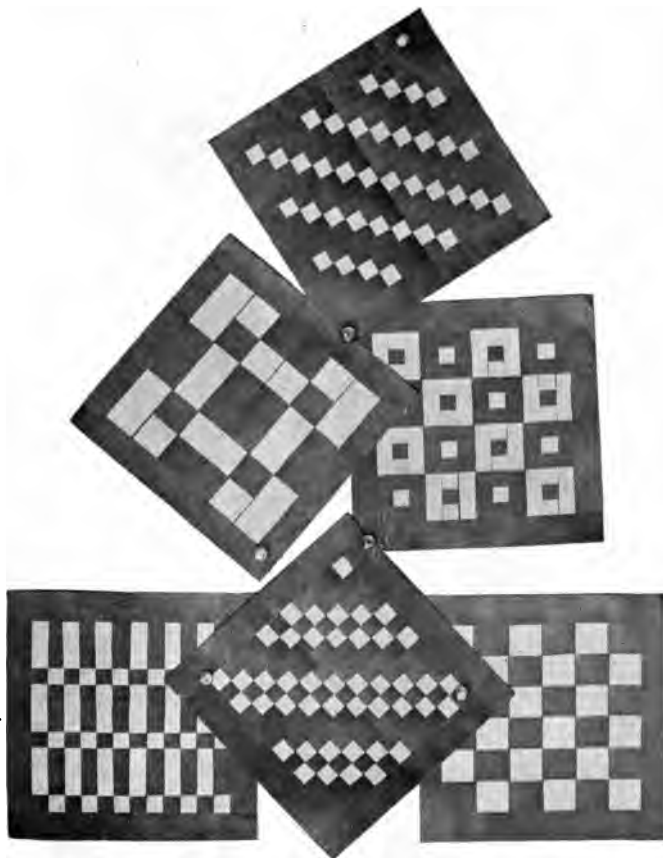
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**To
the teachers and children
of the public schools
this book is
dedicated**



Single Weaving

For directions, see Lesson 7, page 15

INDUSTRIAL WORK *for* PUBLIC SCHOOLS

FIRST YEAR WORK

If we seek the kingdom of heaven, educationally, all other things shall be added unto us—which being interpreted is, that if we identify ourselves with the real instincts and needs of childhood, and ask only after the fullest assertion and growth, the discipline and information and culture of adult life shall come in their due season.

—*John Dewey.*

The work of this grade is based upon the child's natural desire to do, to make something useful in play that he may take home or use in school.

The objects made may not be of interest a month later, but the making has served its purpose. The children have gained the educational value that grows out of the expression of ideas and out of planning, designing, and constructing something that touches their lives and is of vital interest to them.

The great end to be gained is the educational value of the work and not the commercial value of the articles made. Toys, tape measures, and baskets can be purchased for a few pennies; but the reasoning, judgment, accuracy, self-control, originality, and power developed through making cannot be purchased.

Industrial Work

September

Autumn's earliest touch has given
To the woods below
Hues of beauty, such as heaven
Lendeth to his bow.

— *From "Autumn," by John Greenleaf Whittier.*

If hand and eye you deftly train,
Firm grows the will, and keen the brain.

— *Johann Wolfgang von Goethe.*

Making is the natural beginning and foundation of all the conceptive modes of expression. It is nature's primary method of human growth, laying and building a sure foundation for higher action.

It is impossible to do all-sided, educative work without training in handwork. Manual training is the most important factor in primary education, and it remains a prominent factor in all education.

— *Francis W. Parker.*

1. Square Seed Box

Material—Drawing paper.

Draw and cut a 6-inch square. Fold the lower edge to meet the upper edge. Crease. Unfold. Fold the lower edge to meet the crease. Unfold. Fold the upper edge to meet the first crease. Unfold. Turn the paper so that the creases will be in a vertical position. Repeat the directions for folding and you will have sixteen squares. Find the upper right square. Cut along its lower edge. Cut along the lower edge of the upper left square. Cut along the upper edge of the lower left square. Cut along the upper edge of the lower right square. Fold into box form and paste the corner squares on the inside of the short oblong.

First Year Work

Repeat this exercise and use the second box for a cover of the first. Cut a small triangle out of the bottom of the two parallel sides of the cover, thus allowing places to hold the box when you wish to remove the cover.



A square seed box and cover

This lesson should be repeated several times, or until the children do the work very accurately.

No new exercise should ever be given until the last one presented has been thoroughly taught. This avoids much of the difficulty often experienced by teachers and is good pedagogy. It is the practical application of sound educational principles and should be followed by all teachers. "Not how much but how well" is a good rule for industrial work.

2. Small Basket

Material — Heavy colored paper.

Take a piece of paper 6x8 inches. Fold it into twelve 2-inch squares. With the three squares in a horizontal position, find the middle square in the top row. Cut upon the left



A small basket in two colors of paper



A small basket

Industrial Work

and right sides of this square. Repeat with the middle square upon the bottom row. Fold the two outside squares around this square and paste. Cut the handle the size required and paste inside the basket.

3. Doll's Chair

Material— Heavy folding paper.

Cut a 6-inch square. Fold this into nine 2-inch squares. Cut across the top of the lower right square, also the lower left square. Find the square in the middle of the top row and cut across both the right and the left sides. Fold this square up towards you for the back of the chair. Fold the remaining squares into the shape of a cube and paste them together. Now cut an oblong 2 x 4 inches and paste on the back of the chair, to strengthen it. At the top of the back of the chair cut out a small oblong, as an ornament.

At the bottom, beginning about $\frac{3}{8}$ of an inch from each corner, cut an oblong about 1 inch high, to form the legs of the chair.



Doll's furniture

First Year Work

4. Doll's Table

Take an 8-inch square of heavy paper. Fold it into sixteen 2-inch squares. Cut across the top of the lower right square, also the lower left square. Cut across the bottom of the upper right square, also the upper left square. Fold into box form and paste. Use the bottom of the box for the top of the table and at the bottom of each side, beginning $\frac{1}{2}$ of an inch from the corner, cut an oblong about 3 inches by 1 inch. This will make the opening between the legs of the table.

GENERAL WORK

Model in clay some of the fruits and vegetables, as: pears, plums, apples, potatoes, tomatoes, and onions.

Model spheres, marbles, balls, and beads.

Cut fruits and vegetables from Manila or drawing paper.

Bring a large wooden box into the schoolroom and convert it into a doll's house.

Ask the children to bring pieces of wall paper and select the ones suitable for the different rooms. Paper the rooms of the doll's house and begin to furnish it with the articles of furniture made. Add to these from time to time, and keep the interest alive in different ways.

October

O suns and skies and clouds of June
And flowers of June together,
Ye cannot rival for one hour
October's bright blue weather.

O suns and skies and flowers of June,
Count all your boasts together,
Love loveth best of all the year,
October's bright blue weather.

—Helen Hunt Jackson.

Industrial Work

The body, mind, and soul of a little child cry out for self-activity. Children find their greatest delight in that self-activity that constructs, creates. It matters little what children do at first. They will imitate everything and anything of human action that impresses them. They find themselves in continuous self-expression.

I have never known a little child who did not love to make things. I have never known that love to cease in eight years of continuous hand-training. This applies alike to boys and girls, who, under my direction, have always had the same kind of handwork.

— *Francis W. Parker.*



Toy lanterns

5. Toy Lantern

Material—Heavy paper.

Cut a 6-inch square. Paste bands of black paper $\frac{3}{8}$ of an inch wide across the top and bottom of the square. Fold the top to meet the bottom with the bands of black outside. Crease. Beginning on the crease make cuts about $\frac{1}{4}$ of an inch apart from the crease to the black paper. Paste the ends of the bands of black together to form the top and bottom of the lantern. Cut a strip of black $6 \times \frac{3}{8}$ inches for the handle and paste it across the top of the lantern.

6. Doll's Bureau

Take a square of heavy paper 8×8 inches. Fold this into sixteen squares, then cut and paste into a square box 4×4 inches and 2 inches high. For the drawers take two pieces of paper 6×8 inches and fold each into twelve squares. Cut and paste

First Year Work

each into an oblong box 2 x 2 x 4 inches. If you choose, paste a handle upon each drawer. Put these into the square box, and for the back cut an oblong 4 x 7 inches. Paste this upon the back and upon the 3 inches that come above the bureau. Cut slits and bend the top forward to represent the looking-glass, or paste silver paper upon the back, in the form you wish the glass. (See illustration, page 12.)

7. Single Weaving

Take an 8-inch square of heavy paper. Fold the bottom edge over to meet the top. In the upper right-hand corner, 1 inch from the top and 1 inch from the right side, make a dot. Repeat in the upper left-hand corner. Join the two dots with a straight line, and make dots on the line 1 inch apart. On the fold make dots 1 inch apart, opposite the dots on the upper line. Join dots with straight lines and cut on the lines. Unfold. You will have a square with a 1-inch border all around, and the center cut into 1-inch strips. Weave with 1-inch strips over one and under one, until you have used six 1-inch strips. Slip the ends under the margin of the square and fasten them with paste.

You can vary the work by cutting different widths in the *square*, also in the *weaver*. As you work with the strips, new patterns will be suggested. Use folding paper of attractive colors for these mats. (See illustration, page 8.)

GENERAL WORK

Model nuts and vegetables from clay. Collect and mount colored leaves. Collect seeds and place them in the seed boxes.

Make labels and paste them on the boxes.

Cut cornstalks and twigs, with leaves upon them, from Manila or drawing paper.

Industrial Work

Cut the story of the "Little Red Hen" or "Little Red Riding Hood" from poses.

Illustrate by cuttings and drawings stories of the farm, as, picking apples, husking corn, and putting vegetables into the cellar.

Continue furnishing the doll's house.

November

The leaves are fading and falling,
The winds are rough and wild ;
The birds have ceased their calling,
But let me tell you, my child,

Though day by day, as it closes,
Doth darker and colder grow,
The roots of the bright red roses
Will keep alive in the snow.

—*Alice Cary.*

The child's impulse to do finds expression first in play, in movement, gesture, and make-believe ; becomes more definite, and seeks outlet in shaping material into tangible forms of permanent embodiment.

—*John Dewey.*



A woven basket

8. Woven Basket

Material— Heavy folding paper.

Cut a 9-inch square. Fold it into nine squares. Cut out the four corner squares. Around the center square make dots $\frac{1}{2}$ of an inch apart. On the outer edge of the four outside squares make dots $\frac{1}{2}$ of an inch apart. Cut to the opposite dot. For weavers, cut two strips 15 inches long and $\frac{1}{2}$ of an inch wide, and two strips 15

First Year Work

inches long and $\frac{1}{4}$ of an inch wide. With a $\frac{1}{2}$ -inch strip weave across one side. Above this weave with the $\frac{1}{4}$ -inch strip, then above this with the $\frac{1}{2}$ -inch strip, and above this with the $\frac{1}{4}$ -inch strip, and one side is finished. Bend up at the corner, and weave the next side in the same way. Continue until the four sides are woven. Fasten the last corner by overlapping the weavers. To finish the top of the basket, bend every other one of the upright spokes over the last weaver to the inside of the basket and push down under the second weaver from the top and cut off the spokes that are left upright close to the top of the basket. Fasten on a handle and the basket is finished.



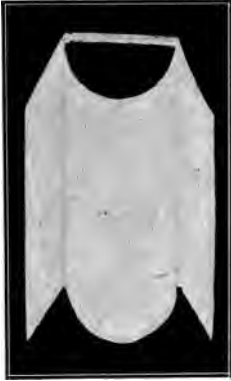
A woven basket

9. Sled

Material—Heavy cardboard.

Draw an oblong 8 x 5 inches. Place oblong with the 8-inch edges in a horizontal position. At a distance of 1 inch from the top and bottom draw lines parallel to the top and bottom. At the left end draw a parallel line $\frac{1}{4}$ of an inch from the edge. Bisect this line with a dot. Place pin of circle marker on dot and draw half of a 3-inch circle on the right of this line. Cut out the entire half circle. Connect the two horizontal lines with a line parallel to and $1\frac{1}{2}$ inches from the right edge. Bisect this line and draw half of a 3-inch circle on the right of this line. Connect the upper right-hand corner and the point where the semi-circle meets the top end of the line. Connect the lower right-hand corner with

Industrial Work.



A sled

the point where the semi-circle meets the lower end of the line. Begin at the upper right-hand corner. Cut across the slant line, then around the circumference of the semi-circle and across the slant line to the lower right-hand corner. Place a dot $1\frac{1}{2}$ inches to the right of the upper left-hand corner. Connect with the left end of the horizontal lines 1 inch below the upper left-hand corner. Cut on slant line. Repeat on lower left-hand corner. Fold runners of sled downward on horizontal lines.

10. Indian Canoe

Material—Drawing paper.

Draw an oblong 6 x 10 inches. One and one-half inches down from the upper left corner and $1\frac{1}{2}$ inches to the right of this point make a dot. With this dot as a center draw a 3-inch circle. Repeat in the other three corners. Place the oblong with the 6-inch ends in a vertical position. From the point where the circles touch draw a line upon the diameter of the circles 2 inches toward the top, also 2 inches toward the bottom. Repeat on opposite end. Connect with a straight line the upper end of the right line with the upper end of the left line. Repeat with lower ends of lines. Fold through the center, the long way, and crease. Beginning at the lower right of oblong cut around the circle until you meet the



An Indian canoe

First Year Work

oblong, across the top of the oblong, and around the circle to the lower left of the oblong. Paste the ends together and streak with brown crayon to give it the appearance of birch bark, or overhand around the canoe with worsted.

II. Puritan Cradle

Material—Manila paper.

Cut an 8-inch square. Fold this square into sixteen 2-inch squares. From any side cut off a row of four squares. Save this for the rockers. Place the remaining squares with the rows of four squares in a horizontal position. Cut across the top of the lower right and also the lower left squares. Cut across the bottom of the upper right and also the upper left squares. Turn up the middle square at the right and fold the two remaining squares across this square and paste. Repeat with the opposite end. Make another oblong box like this. Paste the lower half, with end downward, into the first box, the bottom of the second box being pasted to the end of the first box. This forms the cover for the cradle.

For the Rockers—Take the row of four squares. Fold the right end to meet the left end and paste together. This will make an oblong 2 x 4 inches. Place the 4-inch side in a horizontal position. Cut a 1-inch square from the lower right corner, also from the lower left corner. This will leave two oblongs, a small one and a larger one. Cut the larger one in a curve to form the rockers. Paste the small oblong to the bottom of the cradle so that the rockers will be $\frac{1}{2}$ of an inch from the end. Make the other rocker in the same way from the remaining row of four squares.

GENERAL WORK

Much making can and should be done in connection with the study of Indian and Pilgrim life.

Industrial Work

Build log houses and make furniture for them. (The houses can be made from twigs cut to represent logs.)

Dress a doll in Pilgrim costume. Make canoes from bark and paper.

Make wigwam from skins, leather, and paper.

Model primitive dishes from clay.

Have cuttings made from poses of Pilgrims going to church, of Pilgrim children, etc.

December

Why do bells for Christmas ring?

Why do little children sing?

Once a lovely shining star,

Seen by shepherds from afar,

Gently moved until its light

Made a manger cradle bright.

There a darling baby lay,

Pillowed soft upon the hay;

And its mother sang and smiled,

"This is Christ, the holy Child."

Therefore, bells for Christmas ring.

Therefore, little children sing.

—From "*Why?*" by Eugene Field.

Making has done more for the human race than the exercise of any, if not all, of the other modes of expression. It is absolutely indispensable to normal, physical development; it has had a mighty influence upon brain-building; it has cultivated ethics as a basis of all moral growth.

—Francis W. Parker.

Producing something useful by its own labor gives keen satisfaction to a child, just as it does to a man. What Washington wanted to do when he finally retired to Mount Vernon, was "to make and sell a little flour annually." Many a bereaved woman has found more consolation in tending a garden and in making good use of the flowers, than in all Milton, Watts, and Tennyson. This wholesome human quality all schools ought to develop systematically from the beginning.

—Charles W. Eliot.

First Year Work

12. Sachet Square

Material—A 6-inch square of silver paper.

Measure $\frac{1}{2}$ inch down from the upper right corner and $\frac{1}{2}$ inch to the left of this point and make a dot. Make a corresponding dot in each of the other corners. Connect these dots, making a square and leaving a margin of $\frac{1}{2}$ inch all around. On the top and bottom of the 5-inch square make dots $\frac{1}{2}$ inch apart and connect these dots with straight lines. Cut on these lines. Weave with $\frac{1}{2}$ -inch strips of another color. Put all ends of weavers under the border and paste them.



13. Shaving Ball

Material—Tissue paper.

Take six sheets of tissue paper and cut them into 6-inch circles. Fold each circle on the diameter, then fold twice more. Crush in your hand. Do this with each circle and string through the center of each *as it is folded*. When the six sheets are used, tie the string.



14. Mitten Needle Book

Material—Red cardboard.

Cut two pieces of cardboard the shape of a mitten about $4\frac{1}{2}$ inches long by $2\frac{1}{2}$ inches wide. Sew three seams upon the back of the mitten. Cut two pieces

A mitten needle book

Industrial Work

of white flannel the same shape as the mitten and fasten them between the pieces of cardboard, at the wrist.

15. Match Scratcher

Material—Dark cardboard.

Cut a circle 5 inches in diameter. From sandpaper cut a circle $2\frac{3}{4}$ inches in diameter and paste this in the center of the first circle. Around this paste small circles, about 1 inch in diameter, of some color that harmonizes with the large circle. Punch a hole in the top and fasten a ribbon to hang it up.

16. Invitation to See Christmas Work



A Christmas invitation

Cut the shape of a bell from colored cardboard. Size, $6 \times 4\frac{1}{2}$ inches. Cut a paper the same size and fasten to the cardboard. Upon the paper write:

*"We ask you all to come,
Our Christmas work to see,
With merry hearts our gifts we've hung
Upon the Christmas tree.
On Thursday next we celebrate,
The hour it is at two,
With Merry Christmas until then
We say good-by to you."*

GENERAL WORK

The entire work of this month is based upon the Christmas thought of giving, and all the articles suggested are suitable gifts for parents or friends.

Mount small calendars upon colored cards and gild the edges of the cards. Hang them with silk cord or ribbon. Mount small pictures

First Year Work

of the Madonnas upon gray cardboard and gild the edges. Hang them the same as the calendars.

Tell stories of Christmas in other lands and have the children express the ideas gained by cutting and making.

Have a Christmas tree and let the children trim it.

Decorate the room with paper chains and small colored lanterns. (See October outline.) These lanterns are very attractive if hung in rows around the room.

Make the things that are suitable for the particular children with whom you are working.

"The motive in making is the function or use of the object made."

"Making has for its motive practical use."

CHRISTMAS EVERYWHERE

Everywhere, everywhere, Christmas to-night!
Christmas in lands of the fir-tree and pine,
Christmas in lands of the palm-tree and vine,
Christmas where snow-peaks stand solemn and white,
Christmas where cornfields lie sunny and bright.

Christmas where children are hopeful and gay,
Christmas where old men are patient and gray,
Christmas where peace, like a dove in his flight,
Broods o'er brave men in the thick of the fight;
Everywhere, everywhere, Christmas to-night!

— *Phillips Brooks*

January

The snow had begun in the gloaming,
And busily all the night
Had been heaping field and highway
With a silence deep and white.

Industrial Work

Every pine, and fir, and hemlock,
Wore ermine too dear for an earl,
And the poorest twig on the elm tree
Was ridged inch deep with pearl.

—*James Russell Lowell.*

“The child is a born worker ; activity is the law of his nature.”

The foundation of education consists in training a child to work, to love work, to put the energy of his entire being into work ; to do that work which best develops his body, mind, and soul ; to do that work most needed for the elevation of mankind.

—*Francis W. Parker.*

RIGHT AND LEFT PAPER WEAVING

This work is especially good for all children because it necessitates the equal use of the right and left hand, and it furnishes an excellent opportunity for originality.

A great variety of bookmarks, pencil trays, baskets, mats, and boxes can be made, and these articles are all attractive and useful.

Material—Manila paper strips 1 inch wide and 40 inches long.

Co'ored paper strips 1 inch wide and 20 inches long.

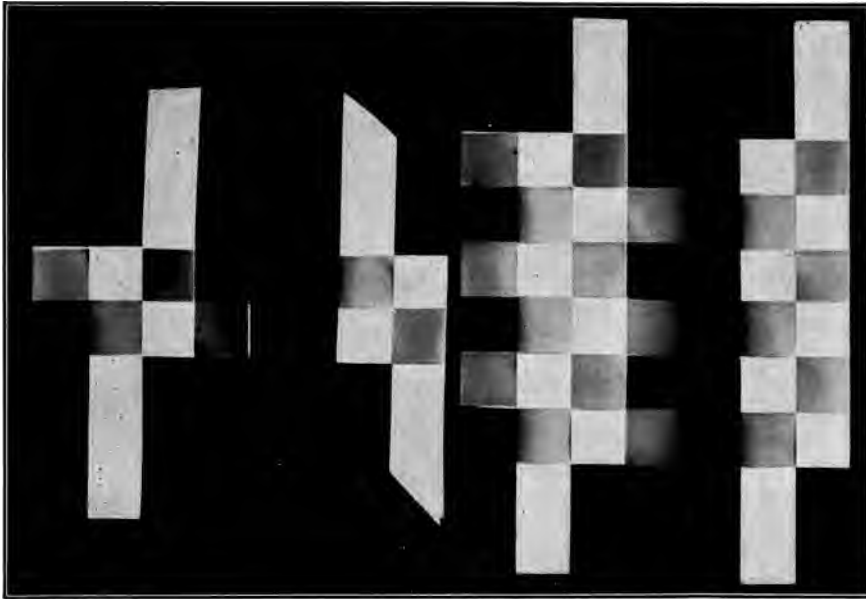
17. Bookmark

Material—Two Manila strips 10 inches long and two colored paper strips 10 inches long.

Fold each strip exactly in the middle and crease it.

Between the first and second fingers of the left hand place one Manila strip with folded end about 1 inch above the fingers. At the right of this strip place another Manila strip, with open end 2 inches above the fingers. Take the open end of one colored strip between the thumb and first finger of the right hand. Open the ends of this strip and place the outside Manila strip between

First Year Work



Right and left weaving—Bookmark

them. Close the ends of the colored strip. With the left thumb, open the inside Manila strip and pass both ends of the colored strip between them. Draw the colored strip through as far as possible. Change the work from the left to the right hand and hold it firmly between the first and second fingers. Take the open end of another colored strip between the thumb and first finger of the left hand. Open the ends of this strip and place the outside Manila strip between them. Close the ends of the colored strip. With the thumb of the right hand open the inside Manila strip and pass the ends of the colored strip between. Draw the colored strip through as far as possible. Take the open ends of a Manila strip

Industrial Work

in each hand and draw the work as tight as possible. Use a very little paste to fasten the colored strips and cut them off close to the edge of the bookmark. Point the ends of the Manila strips and the work is finished.

This little bookmark should be made over and over again until the children can make it easily without direction or help from the teacher.

If this first step is thoroughly taught, all the other paper articles are easily made, but if left too soon the work seems difficult and unsatisfactory.

18. Long Bookmark

Material—Two colored strips 14 inches long and four **Manila** strips 8 inches long.

Make this exactly like the small bookmark and weave in **two** more Manila strips. Paste and finish the same as before.

19. Napkin Ring

Material—Two Manila strips 16 inches long and six colored **strips** 10 inches long.

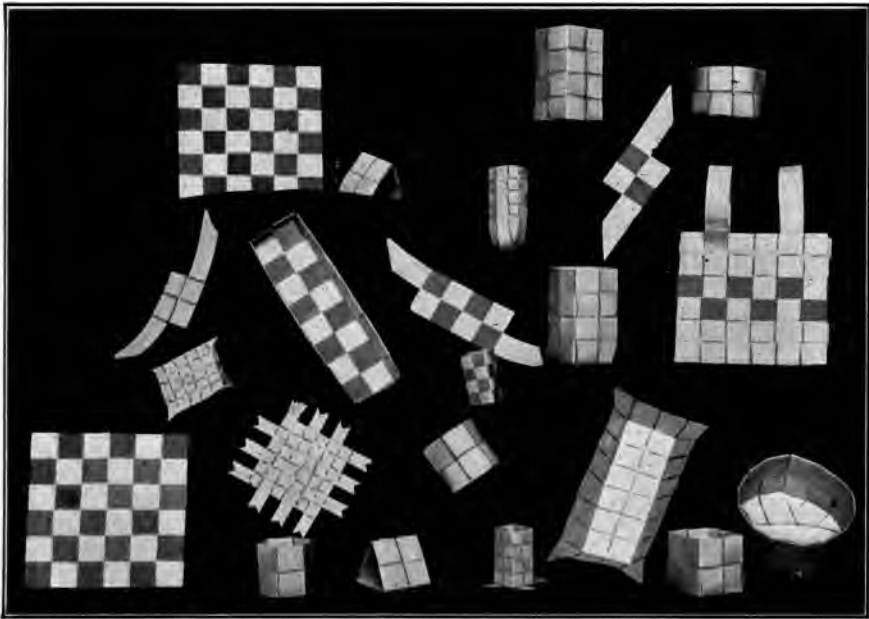
Weave the same as the bookmark, using six weavers. Place the work on the desk with the Manila strips in a vertical position. Fold upward and crease the first row of squares. Fold upward and crease the second row of squares, and so on until all the rows have been folded and creased. Fasten the ends of the weavers, with a little paste, to the edges of the squares and cut them off. Place the ends of the work together and weave in the Manila strips. Let the children take the napkin rings home and use them. This will show the necessity for more substantial material.

First Year Work

20. Mat

Material—Six Manila strips 20 inches long and six colored strips 20 inches long.

Take two colored strips and weave in six Manila strips the same as in the napkin ring. Place the work on the desk, with the colored strips in a horizontal position. Draw down the folded ends of the three Manila strips and weave in the four colored strips, beginning at the right with the third strip, and at the left with the fourth strip. Draw the work as tight as possible by pulling the open ends of each pair of weavers. Place the work on



Examples of right and left weaving

Industrial Work

the desk. Separate the ends of the lower right strip. Fold, crease, and cut close to the edge of the mat the upper half of this strip. Point the end of the other half of the strip and weave it in, being careful that it is on top of the one just cut off. Finish each strip in the same way.

21. Pencil Box

Material—Two Manila strips 40 inches long and sixteen colored strips 20 inches long.

Make this the same as the bookmark, weaving in sixteen colored strips. Draw the work as tight as possible and place it upon the desk with the Manila strips in a horizontal position. Fasten the upper strips with paste and cut them off. This makes the top of the box. Fold the ends of the lower strips upward and crease them close to the edge of the work. Fold the horizontal strips in the same way and crease them. Turn the work, placing the two Manila strips in a vertical position. Fold upward and crease the first two rows of squares. Fold upward and crease the next six rows of squares. Fold and crease the next two rows of squares. Place the ends of the work close together and weave in the Manila strips far enough to make it firm. Weave the bottom of the box just as you would a bookmark, weaving the side strips into the horizontal ones. Cut the ends the right length and weave them in.

After these articles have been made the children will be able to do original work, and it is very desirable that this should be done. They can make toothpick holders, sachet bags, boxes of different shapes, picture frames, foot-rules, and many other useful articles with very little direction. Encourage the use of the articles made, both at home and in school, and whenever a need is felt always try and supply it by making instead of purchasing the object.

First Year Work

GENERAL WORK

Tell stories of Eskimo life, and have an Eskimo house built.
Dress an Eskimo doll.
Encourage the boys to make sledges at home.
Continue cutting from poses and stories.
Play Eskimo games and have cuttings made from them.

february

There's a wonderful weaver
High up in the air,
And he weaves a white mantle
For cold earth to wear.
With the wind for his shuttle,
The cloud for his loom,
How he weaves, how he weaves,
In the light, in the gloom.
—From "*A Wonderful Weaver*," by George Cooper.

"Action is the key-note to habit and character."

The greatest mistake in education consists in shutting children away from nature, and in trying to teach them almost entirely from books.
—John Dewey.

22. Holder

Material—Double-fold Germantown yarn.

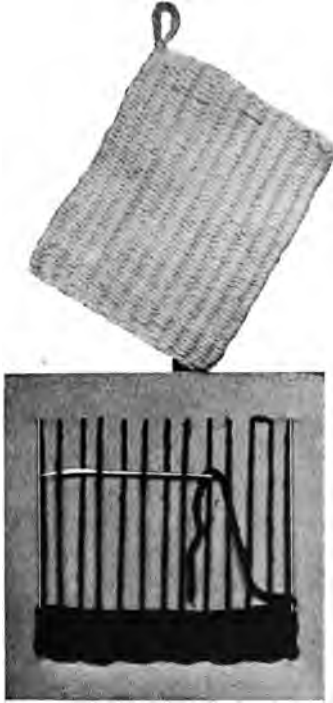
Size, 6 x 6 inches and made upon a strawboard loom 8 x 8 inches.

The warp and woof of these holders should be of the same material and of the same color.

To prepare the loom, draw a line 1 inch down from the top parallel to the top; also draw a line 1 inch up from the bottom parallel to the bottom. Beginning 1 inch from the right side make dots $\frac{1}{2}$ of an inch apart upon these lines, thirteen on each line.

Industrial Work

Make a hole through each dot with a small punch or a large darning needle. From the back of the loom, put a knitting needle through the hole in the upper right corner. Bring this across the front of the loom and put it through the hole in the lower right corner. Repeat on opposite side. These needles will hold the yarn in place and prevent its being drawn towards the center of the holder.



Loom and holder

To string the loom, take a piece of Germantown yarn 90 inches long. Thread it in a large darning needle. From the back of the loom put the needle through the fifth hole from the right side at the top, back through the fourth hole, then through the third hole to the front and back through the second hole. (This sewing back and forth prevents having a knot at the beginning.) Now thread through the first hole from the back, directly over the knitting needle, straight across to first hole at the bottom, back through the second hole at the bottom, and straight across to the second hole at the top. Proceed in this way until all of the holes are filled. After weaving

over the needle at the left fasten the end of the warp by sewing back and forth the same as at the beginning.

Now thread the yarn in a weaving needle. Begin at the upper right corner, count four threads to the left and place the needle

First Year Work

under the fourth thread, over the third, under the second, and over the knitting needle and first thread. Pull the yarn through to the right, leaving about 1 inch of the woof. Put the needle back under the rod and second thread so that the woof will be under and over the same threads as the one inch with which you began the weaving. Proceed in this way, weaving over one thread and under one. Tie with small knot to the next piece. Continue weaving until the warp is full. Fasten the end by sewing back and forth and cut the holder from the loom.

One pound of yarn will make thirty-six holders.

23. Valentines

Material—Heavy paper.

No. 1. Take an oblong of heavy paper 8 x 4 inches. Place on the desk with long edges in a horizontal position. On a line 2 inches from the right edge fold the paper toward the center and crease it. Repeat on the left edge. In the center of the square thus formed, paste a small picture. Fold the oblongs over the picture and join them with a flower or head. Decorate with gilt.

No. 2. Take an oblong 9 x 5 inches. Fold the two short edges so as to meet in the center of the oblong. Cut in the form of a heart. The two halves of the heart will form the cover. Open the back of the heart and write something appropriate to the season. Gild the edges and fasten together.

Valentine Envelopes. Take an 8-inch square of paper. Fold the corners to the center. Paste a 1-inch circle upon three of the corners, leaving the other corner to open. Tuck this corner behind the circle to close the envelope.

24. George Washington Hat

Take an 8-inch square of heavy paper. Fold the lower edge to meet the upper. Turn until the crease is at the right. *Without*

Industrial Work

unfolding, fold lower edge to meet the upper. Fold upper left corner down to the lower right corner. Now take *three* of the corners that were folded down from the upper left corner and fold underneath to the lower right corner. Place the fingers between the diagonals of the square and open for the hat.

GENERAL WORK

Tell the story of "The Cherry Tree" and have it represented by cuttings and with water colors.

Tell many stories of Washington and Lincoln and have them represented in different ways.

The industrial work should always be closely related to the work of the day and month, and it is of vital interest because of this relationship.

March

O March that blusters, and March that blows,
What color under your footstep grows?
Beauty you summon from winter's snows
And you are the pathway that leads to the rose.
—From "March," by Celia Thaxter.

WAITING TO GROW

Little white snowdrop just waking up,
Violet, daisy, and sweet buttercup!
Think of the flowers that are under the snow,
Waiting to grow!

And think what hosts of queer little seeds,
Of flowers and mosses, and ferns and weeds,
Are under the leaves, and under the snow,
Waiting to grow!

First Year Work

Think of the roots getting ready to sprout,
Reaching their slender brown fingers about,
Under the ice, and the leaves, and the snow,
Waiting to grow!

Only a month or a few weeks more,
Will they have to wait behind that door;
Listen and watch, for they are below—
Waiting to grow!

Nothing so small, or hidden so well,
That God will not find it, and very soon tell
His sun where to shine, and his rain where to go
To help them to grow!

— *Frank French.*

The child who employs his hands intelligently in the schoolroom, in due proportion is satisfying one of the most powerful interests within him. He is cheerful, he is a picture of health, and his best emotions and impulses are easily kept active.

— *John Dewey.*

25. Windmill

Material—Drawing paper.

Draw and cut a 6-inch square. Fold the lower left corner to meet the upper right corner. Crease. Unfold. Fold the lower right corner to meet the upper left corner. Crease. Unfold. In the center of the square draw a circle with a $\frac{1}{2}$ -inch radius. Cut on the crease from each corner to the circle. Turn every other point to the center. Place a pin through the four points and also through the center of the circle. Cut from heavy cardboard an oblong 7 inches by $\frac{1}{2}$ of an inch. Use this oblong for the handle of the windmill and fasten it to a stick or the corner of the desk.

26. Carpet-Yarn Rug No. 1

This rug is to be made upon a 9 x 12-inch wooden loom.

To string the loom, fasten the carpet warp around two or three teeth of the loom, so as not to tie a knot. Place the first thread

Industrial Work



A carpet-yarn rug

of the warp directly over the rod at the right side. String back and forth until the rod at the left side is reached. String directly over this rod and fasten the end by winding several times around the teeth of the loom. Take a piece of the woof about 2 yards long. Thread this into a weaving needle. Begin at the upper right corner. Count four threads to the left, and place the needle under the fourth thread, over the third, under the second, and over the rod and first thread, using the rod and first thread as one thread. Pull the needle through to the right, leaving about 1 inch of

the woof. Put the needle back under the rod and second thread, so that the woof will be under and over the same threads as the 1 inch with which we began the weaving.

Proceed in this way, weaving under one thread and over one until the woof is used. In joining the woof do not tie a knot, but lap the woof about an inch, being careful to put it under and over the same threads as the end of the woof. This will give a smooth appearance to the rug. In weaving narrow stripes it is of the utmost importance to start the stripe as suggested at the beginning of the weaving, otherwise the effect will be wrong. Weave about 1 inch of the body color, then use two colors for the border.

First Year Work

Weave the body of the rug until you are ready for the border at the opposite end. Weave the margin and border to match the beginning of the rug, and finish the weaving near the border. Slip the rug off the teeth of the loom. Fasten the ends by sewing in and out on the ends of the rug. Push the weaving towards the ends of the rug, to cover the warp where it was strung over the teeth of the loom, and the rug is finished.

27. Carpet-Yarn Rug No. 2

String the loom with carpet warp. Thread the weaving needle with light green carpet yarn. Across the end weave a border $1\frac{1}{2}$ inches wide. Now thread the needle with dark green carpet yarn. Beginning $1\frac{1}{2}$ inches from right side, directly under the border of light green, weave with the dark green until within $1\frac{1}{2}$ inches from the left side. Keeping this width, weave until you are $1\frac{1}{2}$ inches from the bottom of the rug. Now with light green begin at upper right corner and weave until you reach the warp thread that has the dark green panel. Turn back upon the *same* thread that the dark green turned on and weave, with light green at side, as many rows as there are rows in the panel. Weave in the same way upon the left side. Now weave a $1\frac{1}{2}$ -inch border of light green across the end and you will have a rug with center of dark



A carpet-yarn rug

Industrial Work

green, with a border of light green $1\frac{1}{2}$ inches wide all around the rug.

A rug made the same as the above, with dark red border and panel of dark green, was much admired.

28. Borders for Rugs

Body color dark green

BORDER

2 rows of tan
2 rows of dark green
7 rows of tan
2 rows of dark green
7 rows of tan
2 rows of dark green
2 rows of tan

Body color dark blue

BORDER

2 rows of tan
2 rows of blue
4 rows of tan
2 rows of blue
2 rows of tan
4 rows of blue
2 rows of tan
2 rows of blue
4 rows of tan
2 rows of blue
2 rows of tan

Body color dark blue

BORDER

6 rows of light blue
1 row of dark blue
1 row of light blue
1 row of dark blue
1 row of light blue
1 row of dark blue
1 row of light blue
1 row of dark blue
6 rows of light blue

Body color dark red

BORDER

8 rows of light red
1 row of dark red
1 row of light red
1 row of dark red
8 rows of light red

GENERAL WORK

Have the children plant peas, beans, and morning-glory seeds in the window boxes and in sawdust. Watch these seeds, and talk of the changes.

First Year Work

Bring in twigs of different kinds, and learn their secrets by seeing them develop.

Let the children make cuttings of the twigs in different stages of development, and represent them with water colors.

Make kites and pin-wheels of different kinds, and let the children use them.

Have the children cut different things they have seen the wind do. Let them prepare a farm (on the sand table) for spring seed planting. Read little poems, and have cuttings made from them.

SONG OF THE WIND

I am a giant strong and bold,
Such jokes I play on young and old ;
But I work hard from sun to sun,
And one must have a little fun !

Sometimes a boy I chance to meet,
I blow his hat across the street,
Then toss the kite up to the sky,
And help his mother's clothes to dry.

The flags I wave, the pin-wheels turn,
The blacksmith's fire I help to burn,
Then when it rains I frisk about,
And turn umbrellas inside out.

I send down leaves in golden showers,
To make warm blankets for the flowers.
And then again the seeds I sow,
I bring the showers to make them grow.

And then I go far out to sea,
Where many boats still wait for me.
And when the evening sky is red
I take the fishermen home to bed.

—*M. Helen Beckwith.*

Industrial Work

April

Birds on the boughs before the buds
Begin to burst in the spring,
Bending their heads to the April floods,
Too much out of breath to sing.

Oh, the warm, delicious, hopeful rain,
Let us be glad together.
Summer comes flying in beauty again
Through the fitful April weather.

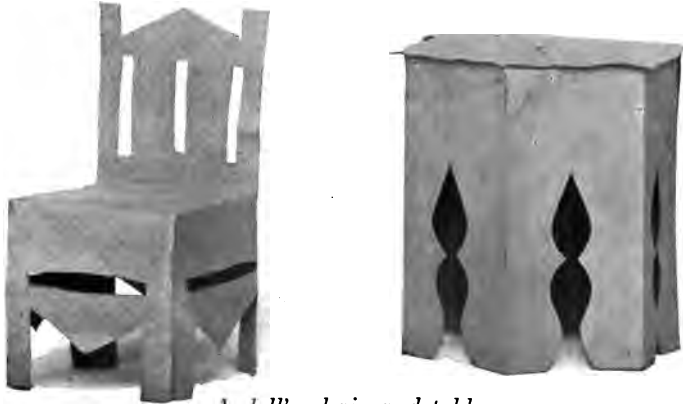
—From "*April*," by *Celia Thaxter*.

Handwork on the rocky farms of New England has given as much of moral power, sturdy integrity, and indomitable perseverance as have her famous universities. Follow the history of any family, rich or poor, the members of which disdain handwork for a few generations, and you find steady deterioration.

—*Francis W. Parker*.

GENERAL WORK

Complete the carpet-yarn rug begun in March.
Clean the doll's house and make new paper furniture for it.



A doll's chair and table

First Year Work

Place the carpet-yarn rugs upon the floors, being sure to select the ones that harmonize with the paper.

Secure a small plot of ground and make it into a garden. If large enough, give each child a portion of it, and if not, give each class, or division, a portion of the garden. Plant vegetable and flower seeds.

Take the children to a small brook, and let them build a bridge across it. Have them observe the work of the water.

Make cuttings and drawings from poems, as:

RAIN

The rain is raining all around,
It falls on field and tree,
It rains on the umbrellas here,
And on the ships at sea.

—*Robert Louis Stevenson.*

THE SWING

How do you like to go up in a swing,
Up in the air so blue?
Oh, I do think it the pleasantest thing
Ever a child can do!

Up in the air and over the wall,
Till I can see so wide,
Rivers and trees and cattle and all
Over the countryside.

Till I look down on the garden green,
Down on the roof so brown,
Up in the air I go flying again,
Up in the air and down!

—*Robert Louis Stevenson.*

Make cuttings to tell the stories of games, as: playing marbles, flying kites, and jumping rope.

Represent the twigs and flowers with water colors.

Industrial Work

"Good-morning, sweet April,
So winsome and shy,
With a smile on your lip
And a tear in your eye ;
There are pretty hepaticas
Hid in your hair,
And bonny blue violets
Clustering there."

May and June

Merry, rollicking, frolicking May
Into the woods came skipping one day ;
She teased the brook till he laughed outright,
And gurgled and scolded with all his might ;
She chirped to the birds and bade them sing
A chorus of welcome to Lady Spring ;
And the bees and butterflies she set
To waking the flowers that were sleeping yet,
She shook the trees till the buds looked out
To see what the trouble was all about ;
And nothing in nature escaped that day
The touch of the life-giving, bright young May.

— *George MacDonald.*

Nothing intensifies interest so much as to endeavor to do a thing yourself ; nothing arouses attention and clear observation like handwork in all the arts and crafts.

— *Francis W. Parker.*

No one kind of handwork or material is broad enough in its possibilities to adequately express even in a meager way the varied interests of school and out-of-school life, of boy and of girl nature.

— *C. R. Richards.*

First Year Work

29. May Basket

Material— Heavy paper.

Cut an 8-inch square. Measure 3 inches from each corner and make a dot. Beginning at first dot at the right of the upper left corner, number them 1, 2, 3, 4, 5, 6, 7, 8. Connect with straight lines as follows: 1-8, 2-7, 3-6, 4-5. Also connect 2-3, 1-4, 8-5, 7-6. Crease all lines. Cover the four small triangles with paste and fold each one in the center so that point 1 touches point 2, 3 touches 4, 5 touches 6, and 7 touches 8, forming the four corners of the basket. Fold the small triangle on the outside of each corner to the side of the basket and paste it. Bend the four large triangles outward for ornament for the basket. Cut handle 8 x $\frac{1}{2}$ inches and paste inside of the basket.



A May basket

30. Silkoline Rug

This rug is to be made upon a 9 x 12-inch wooden loom. String the loom with carpet warp the same as for the carpet-yarn rug. For the woof use silkoline instead of carpet yarn. Cut the silkoline in bias strips $\frac{1}{2}$ of an inch wide. Fringe the strips by drawing them through the hands. Take great care to select colors that harmonize well. Thread the weaving needle with the silkoline and weave the same as for the carpet-yarn rug. Make some of these rugs with plain borders, using the figured for the centers.

Industrial Work

Make others using the figured for the entire rug, and still others with light-figured panel for the center and dark-figured border around the entire rug. You can vary the pattern as much in the silkoline rugs as in the carpet-yarn rugs.

GENERAL WORK

Continue the illustration of spring poems and stories by cutting, drawing, and water-color work.

Watch the growth of the plants and leaves, and represent the changes in different ways.

Tell stories of the farm and let the children cut chickens, lambs, and other animals.

Encourage the making of chicken coops, ladders for plants, and fences of different kinds.

The school garden should receive careful attention, and all the work should be done by the pupils.

July

When the scarlet cardinal tells
Her dream to the dragon fly,
And the lazy breeze makes a nest in the trees,
And murmurs a lullaby,
It is July.

When the tangled cobweb pulls
The cornflower's cap awry,
And the lilies tall lean over the wall
To bow to the butterfly,
It is July.

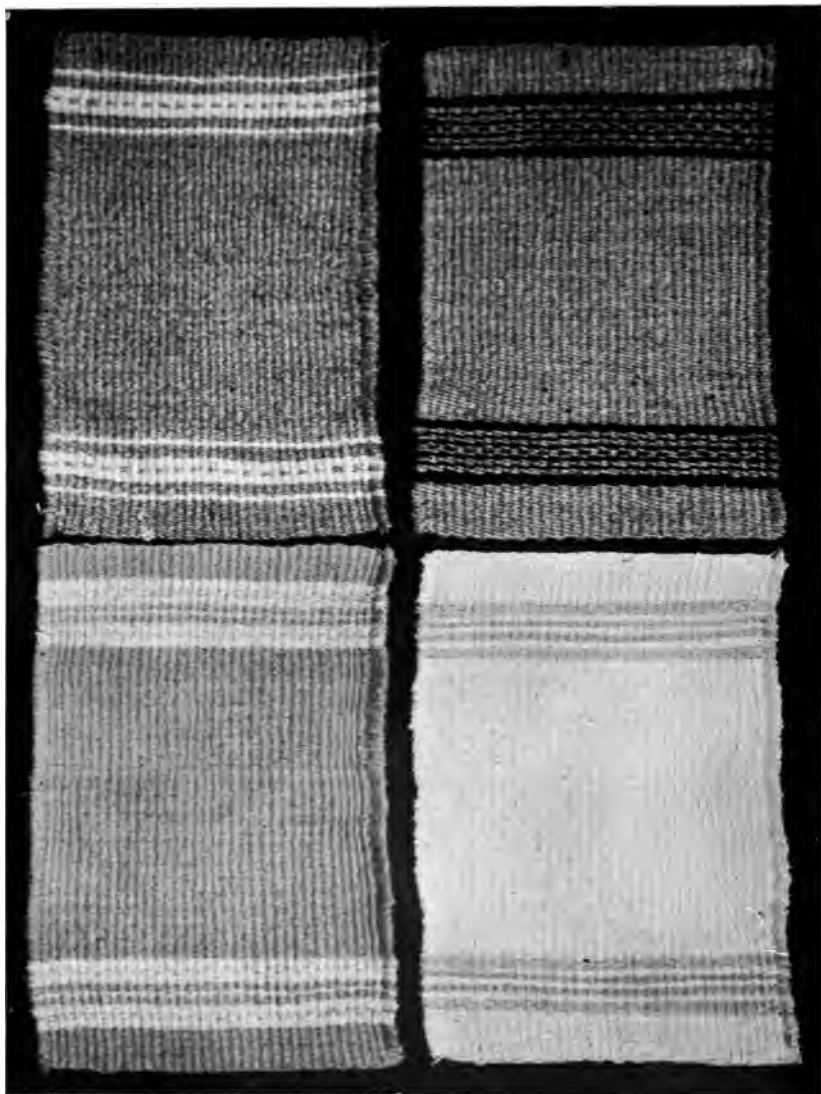
First Year Work

When the heat like a mist veil floats,
And poppies flame in the rye,
And the silver note in the streamlet's throat
Has softened almost to a sigh,
It is July.

When the hours are so still that time
Forgets them, and lets them lie
Neath petals pink till the night stars wink
At the sunset in the sky,
It is July.

—*Susan Hartley Swett.*





Doll's bed blankets
(See Lesson 39, page 54)

SECOND YEAR WORK

September

The hills are bright with maples yet ;
But down the level land
The beech leaves rustle in the wind
As dry and brown as sand.

The pigeons in black wavering lines
Are swinging toward the sun ;
And all the wide and withered fields
Proclaim the summer done.

His store of nuts and acorns now
The squirrel hastes to gain,
And sets his house in order for
The winter's dreary reign.

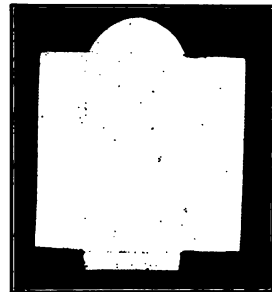
—From "*Faded Leaves*," by Alice Cary.

In manual training there are the best lessons imaginable in form, geometry, and practical arithmetic. Manual training is primary logic, so much needed in speech and writing. Manual training trains the will by persistent effort, stimulates the critical faculty, and, above all, develops ethical motive.

—Francis W. Parker.

31. Seed Box

Make large seed boxes of heavy Manila paper and place four small boxes in each large one. (See directions for making, September, First Year Work.) Make a cover for each large box and labels for the divisions, or small boxes.



Seed envelope

Industrial Work

32. Seed Envelope

Material — Manila paper.

Draw and cut an oblong $6\frac{1}{2} \times 5\frac{1}{4}$ inches. Place the shorter edges in a horizontal position. Draw a line $1\frac{1}{2}$ inches from, and parallel to, the left edge. Draw a line $1\frac{1}{2}$ inches from, and parallel to, the right edge. Also draw lines 1 inch from the top and $\frac{1}{2}$ inch from the bottom parallel to the top and bottom. Cut out the small oblong in each of the four corners. Fold up the

oblong at the bottom. Fold the right oblong over the

left and paste; also paste the small oblong across the bottom. Curve the upper oblong and fold over to form the flap of the envelope. Label these envelopes.

33. Chinese Lanterns

Material — Bright colored folding paper.

Decorate the paper by coloring it in stained glass effects, or by painting sprays of autumn flowers, long grasses, or twigs upon it with water colors. (For making, see October, First Year Work.)

These lanterns are very pretty and attractive if made in different sizes and colors and decorated artistically.



Chinese lantern



Chinese lantern

Second Year Work

GENERAL WORK

Review the double paper weaving (see January, First Year Work), and make seed boxes of different sizes, peck and bushel baskets, bins for the cellar, and boxes for the corn and grain.

Collect seeds of all kinds from the school garden, adjacent fields, and parks, and place them in the boxes and envelopes. Label each, and put it away for future use.

Collect autumn leaves and mount them upon cardboard for sense-training and decoration.

Represent the fall landscape, flowers, and foliage with water colors.

Model vegetables and fruits in clay, and represent them with water colors.

Illustrate autumn poetry by making cuttings and drawings.

SEPTEMBER

The golden-rod is yellow ;
The corn is turning brown ;
The trees in apple orchards
With fruit are bending down.

The gentian's bluest fringes
Are curling in the sun ;
In dusty pods the milkweed
Its hidden silk has spun.

The sedges flaunt their harvest
In every meadow nook ;
And asters by the brookside
Make asters in the brook.

From dewy lanes at morning
The grapes' sweet odors rise;
At noon, the roads all flutter
With yellow butterflies

Industrial Work

By all these lovely tokens
September days are here,
With Summer's best of weather,
And Autumn's best of cheer.

—*Helen Hunt Jackson.*

October

THE CORN SONG

Heap high the farmer's wintry hoard!
Heap high the golden corn!
No richer gift has autumn poured
From out her lavish horn!

Let other lands, exulting, glean
The apple from the pine,
The orange from its glossy green,
The cluster from the vine;

We better love the hardy gift
Our ragged vales bestow,
To cheer us when the storm shall drift
Our harvest fields with snow.

Through vales of grass and meads of flowers,
Our plows their furrows made,
While on the hills the sun and showers
Of changeful April played.

We dropped the seed o'er hill and plain,
Beneath the sun of May,
And frightened from our sprouting grain
The robber crows away.

All through the long, bright days of June
Its leaves grew green and fair,
And waved in hot midsummer's noon
Its soft and yellow hair.

Second Year Work

And now, with autumn's moonlit eves,
Its harvest-time has come,
We pluck away the frosted leaves,
And bear the treasure home.

There, richer than the fabled gift
Apollo showered of old,
Fair hands the broken grain shall sift,
And knead its meal of gold.

Let vapid idlers loll in silk
Around their costly board ;
Give us the bowl of samp and milk,
By homespun beauty poured !

Where'er the wide old kitchen hearth
Sends up its smoky curls,
Who will not thank the kindly earth,
And bless our farmer girls !

Then shame on all the proud and vain,
Whose folly laughs to scorn
The blessings of our hardy grain,
Our wealth of golden corn !

Let earth withhold her goodly root,
Let mildew blight the rye,
Give to the worm the orchard's fruit,
The wheat-field to the fly :

But let the good old crop adorn
The hills our fathers trod ;
Still let us, for his golden corn,
Send up our thanks to God !

—John G. Whittier.

The best effect of manual work is seen in the moral power it exerts.
Bodily occupation is everywhere elevating and healthful, and morality
and religion are built upon industry.

—Clarence Franklin Carroll.

Industrial Work

34. Raffia Rug No. 1

This is made upon a 9 x 12-inch wooden loom. Either raffia or carpet warp or twine may be used for the warp. String the loom the same as for the carpet-yarn rug, and use the needle in weaving.

Weave about 1 inch of the plain raffia and then use a color with the plain, for a border, as follows:

2 rows of red
2 rows of white
5 rows of red

3 rows of white
1 row of red
3 rows of white

5 rows of red
2 rows of white
2 rows of red



A raffia rug

Now weave with the plain raffia, until you are ready for the border, upon the opposite end of the rug. Weave this to match the first end. Slip the rug off the loom. Push the raffia up close to the end and the rug is finished.

35. Raffia Rug No. 2

Another rug, with warp and woof both of raffia, is made by weaving a strip of raffia, then weaving a border of two or three colors, then the body of the rug of raffia, and the opposite end to match the first.

After taking this rug from the loom tie a fringe of raffia in each end.

Second Year Work

36. Raffia Rug No. 3

String the loom with plain raffia, then with a color weave small figures here and there, through the entire rug, to represent straw matting. Fill in the spaces with the plain raffia.

37. Raffia Rug No. 4

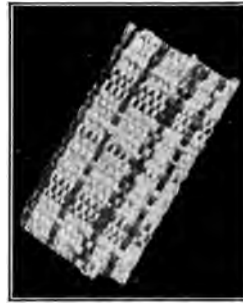
Warp and woof both of raffia. String the loom with the plain color, then with several threads of different colors, then the plain, then the colored, finishing with the plain.

Weave in the same order and you will have a plaid rug.

38. Raffia Card Case

This may be made upon a strawboard or a wooden loom. The weaving when finished is to be $4\frac{1}{4} \times 10\frac{1}{2}$ inches.

String the loom with strands of raffia about $\frac{1}{4}$ of an inch apart. The one in the cut is strung as follows: 5 threads of white, 2 of tan, 1 of green, 5 of white, 1 of tan, 5 of white, 2 of tan, 1 of green, 5 of white. Weave the woof in the same order, until you have the required length. Face one side with silk for the lining to the card case. Fold each end over about 2 inches toward the center, and sew the edges with raffia. This will leave about 1 inch in the back where the case is to be folded together.



A raffia card case

GENERAL WORK

Continue and enlarge all general lines of work mentioned for October, First Year Work.

Industrial Work

Give special attention to the collection of nuts, seeds, and vegetables.
Study the preparation of man and animals for winter.
Illustrate autumn poetry, as :

AUTUMN FIRES

In the other gardens
And all up the vale,
From the Autumn bonfires
See the smoke trail !

Pleasant summer over,
And all the summer flowers ;
The red fire blazes,
The gray smoke towers.

Sing a song of seasons,
Something bright in all !
Flowers in the summer,
Fires in the fall.

—*Robert Louis Stevenson.*

The loud winds are calling,
The ripe nuts are falling,
The squirrel now gathers his store.
The bears, homeward creeping,
Will soon all be sleeping,
So snugly till winter is o'er.

—*From "An Autumn Song," by Emilie Poulsson.*

His store of nuts and acorns now
The squirrel hastes to gain,
And sets his house in order for
The winter's dreary reign.

—*Alice Cary.*

"Barbara Blue," *Alice Cary*. "Maize for the Nation's Emblem,"
Celia Thaxter. "The Coloring of the Grapes," *Sarah K. Bolton*. "The
Pumpkin," *J. G. Whittier*.

Second Year Work

November

LANDING OF THE PILGRIM FATHERS

The breaking waves dashed high
On a stern and rock-bound coast ;
And the woods against a stormy sky,
Their giant branches tossed :

And the heavy night hung dark,
The hills and waters o'er,
When a band of exiles moored their bark
On the wild New England shore.

Not as the conqueror comes,
They, the true-hearted, came ; —
Not with the roll of the stirring drums,
And the trumpet that sings of fame ; —

Not as the flying come,
In silence, and in fear ; —
They shook the depths of the desert's gloom
With their hymns of lofty cheer.

Amidst the storm they sang,
And the stars heard, and the sea ;
And the sounding aisles of the dim woods rang
To the anthem of the free.

The ocean-eagle soared
From his nest by the white wave's foam,
And the rocking pines of the forest roared : —
This was their welcome home.

There were men with hoary hair
Amidst that pilgrim band :
Why had they come to winter there,
Away from their childhood's land ?

Industrial Work

There was woman's fearless eye,
Lit by her deep love's truth ;
There was manhood's brow serenely high,
And the fiery heart of youth.

What sought they thus afar?
Bright jewels of the mine?
The wealth of seas? The spoils of war?
They sought a faith's pure shrine.

Ay, call it holy ground,—
The soil where first they trod!
They have left unstained what there they found—
Freedom to worship God!

—*Felicia Hemans.*

The educational value which the old copy book represents is not the important point, even so must it be in manual training in whatever form it is introduced. If clay modeling be introduced, the value must not be in the object, the mere symbolic representation of the work done, but rather in the training which the object represents, in the working not in the work, in the means not in the end, in its extrinsic not in its intrinsic value. That the child during the work has learned the use of one or two tools is only an accidental result; that he has been educationally trained is the essential point.

—*Richard G. Dickson.*

39. Doll's Bed Blanket

Material—Cream gray, tan, blue or pink German knitting yarn.

(See illustration, page 44.)

The warp and woof are of the same material, and the blanket is woven upon the same loom as the carpet-yarn rug, and in the same way.

Select the *body color* for the blanket and string the loom with the same color.

Second Year Work

Thread the weaving needle, and weave about $1\frac{1}{2}$ inches, then take a color that harmonizes with the body color and stripe, with the body color, for a border.

Weave the center until you are ready for the border at the opposite end. Make this to match the border at the beginning, and finish the weaving near the border. Study blankets for ideas in striping.

One pound of yarn will make forty-eight blankets.

40. Borders for Blanket

White blanket with blue border

1	2	3
1 row of blue	5 rows of white	1 row of blue
2 rows of white	5 rows of blue	2 rows of white
1 row of blue	3 rows of white	1 row of blue
2 rows of white	5 rows of blue	2 rows of white
1 row of blue	5 rows of white	1 row of blue

Gray blanket with border of red

1	2
8 rows of red	2 rows of gray
3 rows of gray	3 rows of red
2 rows of red	3 rows of gray
3 rows of gray	2 rows of red
3 rows of red	3 rows of gray
2 rows of gray	8 rows of red
1 row of red	

Blanket of pink with white border

1	2	3
6 rows of white	6 rows of pink	6 rows of white
1 row of pink	2 rows of white	1 row of pink
2 rows of white	6 rows of pink	2 rows of white
1 row of pink		1 row of pink
6 rows of white		6 rows of white

Industrial Work

Blanket of white with pink border

<i>1</i>	<i>2</i>
2 rows of pink	2 rows of white
2 rows of white	4 rows of pink
4 rows of pink	2 rows of white
2 rows of white	2 rows of pink
1 row of pink	

GENERAL WORK

Review and enlarge the Indian and Pilgrim work. (See suggestions for November, First Year Work, page 16.)

Tell the story of Arachne, and interest the children in the history of weaving.

Show Indian blankets, and let them try to make looms and weave upon them.

Do a large amount of history work at this time and always connect the making, cutting, and drawing with the oral work.

Collect and mount upon gray cardboard pictures of the Pilgrims, as, "The Pilgrim Exiles," "John Alden and Priscilla," and "Pilgrims Going to Church," by George H. Boughton.

December

THE CHRISTMAS MESSAGE

We hear the Christmas message
Brought to us long ago,
Why have the centuries kept it fresh?
Why do we prize it so?

Because it is rich with the gold of love
That with bright, exhaustless flow,
From unfailing source in the Heart Divine,
Supplies our hearts below.

Second Year Work

And it tells of the tender, human bond,
Since ever the world began,
For it teaches the Fatherhood of God,
The brotherhood of man.

But how can we carry the tidings,
Make each man as loving and true
To the poor, the oppressed, and the lowly,
As they are to me and to you?

Let them shine in thought and word and deed,
As we work out the heavenly plan;
And, blessed by the Fatherhood of God,
Prove the brotherhood of man.

— *Jane Andrews.*

I heard the bells on Christmas Day
Their old familiar carols play,
And wild and sweet
The words repeat,
Of "Peace on earth, good-will to men."
— *From "Christmas Bells," by Henry Wadsworth Longfellow.*

"What means that star," the shepherds said,
"That brightens through the rocky glen?"
And angels answering overhead,
Sang "Peace on earth, good-will to men."
— *From "A Christmas Carol," by James Russell Lowell.*

The basis of citizenship is, first, constructive activity, and secondly and above all, creative activity. The child when trained to create is trained to think and to explore all the questions of the past and present. The simple creation in the primary school and kindergarten means opening the way of liberty into personal freedom.

— *Francis W. Parker.*

Industrial Work

41. Circle Marker

Material—Strawboard.

Draw and cut an oblong 8 x 1 inches. On the longer sides place dots 1 inch apart, beginning $\frac{1}{2}$ of an inch from each end. Connect the dots by straight lines. Bisect each line except the first. Punch through each bisection with a small punch.

To draw a 2-inch circle place a pin through the first point. Place the pencil point through the perforation, 1 inch from the pin, and use the pin as a pivot. Draw the circle.

42. Hexagonal Box

Material—Folding paper or cardboard, 8 x 8 inches.

Draw a circle having a 2-inch radius with the circle marker. Divide the circumference into six equal parts. From these points construct a hexagon. Number these points 1, 2, 3, 4, 5, 6. Join with a rule the points 1 and 3, extending the line $1\frac{1}{2}$ inches beyond the points. Draw corresponding lines from points 2 and 4, 3 and 5, 4 and 6, 5 and 1, 6 and 2. Beginning at 1 connect the extended lines 1 and 2, forming an oblong. In the same way connect lines 2 and 3, 3 and 4, 4 and 5, 5 and 6, and 6 and 1. Connect the outer corners of the oblongs, forming six triangles, and use a part of each triangle as a paste flap. Crease the edges of the hexagon and the edge to be turned for a paste flap. Cut away the parts of the triangles not used as paste flaps; also cut around the outer edges of the oblongs. Turn the sides up and paste them. If desired, the corners may be tied with narrow ribbon or sewed together with worsted.



Hexagonal box

Second Year Work

Make the cover of the box in the same way, only extend the lines $\frac{1}{2}$ inch beyond the points, and make the top of the box $\frac{1}{8}$ of an inch larger than the bottom. Or the cover may be made without the sides. (See illustration.)

43. Shaving-Paper Star

Material—Colored cardboard.

Cut a six-pointed star on an 8-inch diameter. From the center of this star cut out a small six-pointed star $3\frac{1}{4}$ inches in diameter.

Sew with worsted three

rows, about $\frac{1}{4}$ of an inch apart, around the star.

Cut twelve pieces

of tissue paper the size of the large star and fasten them to one of the points.

As you wish to use the paper pull it through the small star in the center. Hang it up by a ribbon fastened to one of the points.

44. Brush-Broom Holder

Material—Colored cardboard.

Cut a circle 5 inches in diameter. Sew with worsted around four circles, meeting in the center. Then take



Shaving paper star



Brush-broom case

Industrial Work

another piece of cardboard 4 inches long and $2\frac{1}{2}$ inches wide. Round the ends of this and fasten it to the back of the 5-inch circle with ribbon, tying small bows in front. Punch a hole at the top of the crosspiece, upon the back, and tie in a ribbon to use as a hanger.

45. Blotting Pad

Material—Strawboard and ingrain or marble paper.

Cut two oblongs of strawboard; one 12 x 16 inches, the other, $11\frac{1}{2}$ x $15\frac{1}{2}$ inches. From ingrain or marble paper cut an oblong 17 x 13 inches. Paste this on one side of the larger oblong, also paste over the edges and lap on the other side $\frac{1}{2}$ of an inch. From cardboard cut four corners $2\frac{1}{2}$ inches on each side. Cut leather $\frac{1}{2}$ of an inch larger than these corners. Paste the leather across the diagonal, place this corner on the corner of the smaller oblong, and fasten it by pasting the leather flap to the underside of the oblong. Repeat on each of the other corners.

Pockets are formed which are to hold the blotters to the pad. Paste the two oblongs together. Cut blotting paper the required size and slip under the corners.

46. Calendar

Material—Red cardboard, red worsted, and a calendar.

From red cardboard cut a circle 5 inches in diameter; $\frac{3}{8}$ of an inch in from the circumference draw a circle; $\frac{1}{2}$ of an inch from this draw another circle, and $\frac{1}{2}$ of an inch from this still another circle. With a lighter shade of red worsted sew on each of these three circles. Fasten a small calendar in the center. Paste dark red paper on the back to cover the sewing. Punch a hole at the top and tie in a bow of ribbon of any color desired, with a loop for a hanger.

Second Year Work

47. Raffia Picture Frame

Material—Strawboard and raffia.

From a 6-inch square of strawboard cut a circle 6 inches in diameter. Within this cut a circle $2\frac{1}{2}$ inches in diameter.

Dampen the raffia and pull it through the hands several times to make it smooth.

Wind the raffia around the strawboard, as seen in the illustration.

Leave the edge plain, or finish with a braid of raffia. A loop of



A raffia picture frame



A raffia picture frame

the raffia may be made with which to hang up the frame.

Paste heavy paper on the back, leaving an opening at the top in which to slip the picture.

An oval frame may be made in the same way.

If you wish a square or oblong frame, cut the frame the shape desired. Draw a diagonal line from the outer corner to the inner, and make small holes along this line. Wrap across one side, and when the inner corner is reached, sew into the first hole. Wind around and sew into the second hole. Wind and sew in this way until the outer

Industrial Work

corner hole is reached. Wind on the next side and sew into the same holes that were sewed into before, until the inner corner is reached. Wind across the next side and proceed as before. Finish the same as the round or oval frame.

GENERAL WORK

Make calendars by mounting water-color sketches upon cardboard and pasting small calendars below. Decorate calendars in other ways.

Frame pictures of the Madonnas and Holy Families in different ways.



A toboggan cap

Mount Christmas pictures upon delicate gray or white cards, and tie them together for booklets.

The entire work of December should be based upon the Christmas thought, and each child should make several small gifts, and assist in the decoration of the schoolroom and in the trimming of the school tree.

Numberless simple gifts can be made from colored papers, inexpensive copies (prints) of famous pictures, small calendars, and cards.

Hang up the baby's stocking;
Be sure that you don't forget;
The dear little dimpled darling
Has never seen Christmas yet.
But I've told her all about it,
And she opened her big blue eyes,
And I'm sure that she understood me,
She looked so funny and wise.

—Emily Huntington Miller.

Heap on more wood! The wind is chill!
But let it whistle as it will,
We'll keep one merry Christmas still.

—Sir Walter Scott.

"Christmas Bells," *H. W. Longfellow*. "Ring Out, Wild Bells,"
Alfred Tennyson. "A Visit from Saint Nicholas," *Clement C. Moore*.

Second Year Work

January

WINTER SONG

Hurrah for the jolly old winter,
The king of the seasons is he,
Though his breath is cold and icy,
His heart is full of glee.
He piles up the beautiful snowflakes
On the apple trees bare and brown,
And laughs when the north wind shakes them,
Like a shower of blossoms down.

Hurrah for the jolly old winter,
He shouts at the door by night,
"Come out where the ice is gleaming
Like steel in the gold moonlight."
Like swallows over the water,
The skaters merrily go.
There's health in the blustering breezes,
And joy in the beautiful snow.

—Emily H. Miller.

Clear and strong images are best developed by making, modeling, painting, and drawing. These modes of expression are the centers from which mental and moral strength expand and to which the action of the whole being concentrates.

—Francis W. Parker.

48. Tea Cozy

Material—Double Germantown yarn.

This tea cozy is made upon a strawboard loom 8 x 8 inches.

Prepare the loom the same as for the holder, only make the holes as near together as possible without breaking the strawboard—about five or six to the inch.

To string the loom, thread the needle with the yarn and put it through the first hole in the upper left corner, from the front,

Industrial Work

straight across the back to the first hole in the lower left corner, through this to the front, then straight across the front to the point of beginning. Tie with the end left. Then pull the yarn straight across to the second hole in the upper left corner. Put it through to the back, then straight across the back, as before, to the lower left corner, second hole, through this to the front, and straight across to the second hole in the upper left corner. Fasten the thread here over the thread that goes straight across from the first to the second hole. Pass straight across to the third hole. Proceed in this way until the loom is strung the required size. Fasten the end the same as at the beginning. This will keep the warp threads straight across. If you wish to use different colors, string the loom with one color and weave with another. You may also weave a different pattern upon each side of the cozy.

For the Weaving—Put a knitting needle through the two holes upon the right side of the loom, to keep the warp from being drawn to the center. Upon the other side of the cozy, directly opposite and in the same holes, put another knitting needle. Thread the woof into a weaving needle and begin to weave at the upper right corner, as follows: Under two threads, over two, under two, over two, until you reach the edge of the warp, then put the needle *through* the strawboard to the other side and weave over two, and under two, until you reach the knitting needle. Turn and go back in the same way, until you reach the edge, then put the needle through the strawboard, and weave until you reach the other knitting needle. Turn and go back.

Upon one side weave in checks, upon the other side weave in diagonal lines.

When the loom is filled, fasten the end of the woof and break the loom from the cozy.

Second Year Work

By turning this up around the bottom and pushing in the corners you will have a toboggan cap. By putting a drawstring around the top you will have a little bag. It also makes a very good double holder.

GENERAL WORK

Read stories of Eskimo life, and make houses, sledges, and clothing. Study different kinds of evergreens, and represent them in several ways.

Read the poem, "What the Wood Fire Said to the Little Boy," by Frank L. Stanton, and have the children illustrate parts of it.

February

RED RIDING HOOD

On the wide lawn the snow lay deep,
Ridged o'er with many a drifted heap ;
The wind that through the pine trees sung
The naked elm-boughs tossed and swung ;
While, through the window, frosty-starred,
Against the sunset purple barred,
We saw the somber crow flap by,
The hawk's gray fleck along the sky,
The crested bluejay flitting swift,
The squirrel poising on the drift,
Erect, alert, his broad gray tail
Set to the north wind like a sail.

It came to pass our little lass,
With flattened face against the glass,
And eyes in which the tender dew
Of pity shone, stood gazing through
The narrow space her rosy lips
Had melted from the frost's eclipse :
"Oh, see," she cried, "the poor bluejays ;

Industrial Work

What is it that the black crow says?
The squirrel lifts his little legs
Because he has no hands, and begs ;
He's asking for my nuts, I know :
May I not feed them on the snow ?"
Half lost within her boots, her head
Warm sheltered in her hood of red,
Her plaid skirt close about her drawn,
She floundered down the wintry lawn ;
Now struggling through the misty veil
Blown round her by the shrieking gale ;
Now sinking in a drift so low
Her scarlet hood could scarcely show
Its dash of color on the snow.

She dropped for bird and beast forlorn
Her little store of nuts and corn,
And thus her timid guests bespoke :
"Come, squirrel, from your hollow oak,—
Come, black old crow,—
Come, poor bluejay,
Before your supper's blown away !
Don't be afraid, we all are good ;
And I'm mamma's Red Riding Hood !"

O Thou whose care is over all,
Who heedest even the sparrow's fall,
Keep in the little maiden's breast
The pity which is now its guest !
Let not her cultured years make less
The childhood charm of tenderness,
But let her feel as well as know,
Nor harder with her polish grow !
Unmoved by sentimental grief
That wails along some printed leaf,
But prompt with kindly word and deed
To own the claims of all who need,
Let the grown woman's self make good
The promise of Red Riding Hood !

—*John G. Whittier.*

Second Year Work

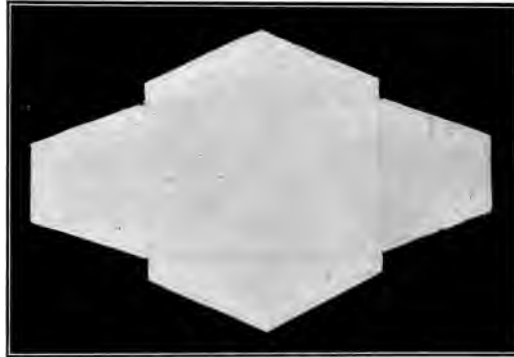
It is only beginning to be generally realized that hand and eye training affords a valuable intellectual and moral discipline; that it powerfully stimulates the practical intelligence in a way which must react on the rest of the school work, and that it tends to correct the abstractness and unreality of much school work by establishing in the minds of both the teacher and pupil a sense of connection between the work of the school and the work of everyday life.

—*Edinburgh Journal*.

49. Valentine Envelope

Material—Drawing paper.

Draw and cut an oblong 8 x 12 inches. Place the long edge parallel with the front of the desk. Make a dot 2 inches down from the upper right corner. Repeat on the left edge and connect the two dots by a straight line. Repeat with the lower right and left corners. On the upper edge, 3 inches from the upper right corner, make a dot. Place a dot opposite on the lower edge. Connect these two dots by a straight line. Repeat on the upper left and the lower left corners.



A valentine envelope

(There are now three rows of oblongs.) Bisect the upper edge of the middle oblong of the top row. On the left edge of this same oblong, $\frac{1}{2}$ inch from its lower left corner, place a dot and connect it by a straight line with the dot bisecting the top. Repeat on the right side. Also repeat on the middle oblong at the bottom. Find the middle oblong at the

Industrial Work

right; 1 inch down from its upper right corner make a dot, and connect it by a straight line with the upper left corner of this same oblong. Repeat at lower left corner. Repeat dictation for the middle oblong at the left.

Cut on all slant lines, and also on the $\frac{1}{2}$ -inch lines at the sides of the two oblongs at the top and bottom. Fold on the remaining straight lines, and paste all but the upper triangle. Leave this for the flap of the envelope.

GENERAL WORK

Complete the tea cozy begun in January.

Make valentines of many kinds. (See February, First Year Work.)

Mount pictures of Lincoln, his boyhood home, his horse, etc., upon white paper, and write a quotation under the picture or upon the opposite page. Fasten these pages together in book form, and letter the cover.

Make similar books for Washington, Longfellow, and Lowell.

March

WILD GEESE

The wind blows, the sun shines, the birds sing loud,
The blue, blue sky is flecked with fleecy, dappled cloud,
Over earth's rejoicing fields the children dance and sing,
And the frogs pipe in chorus, "It is spring! It is spring!"

The grass comes, the flower laughs where lately lay the snow,
O'er the breezy hilltop hoarsely calls the crow,
By the flowing river the alder catkins swing,
And the sweet song-sparrow cries, "Spring! It is spring!"

Second Year Work

Hark, what a clamor goes winging through the sky!
Look, children! Listen to the sound so wild and high!
Like a peal of broken bells,—kling, klang, kling,—
Far and high the wild geese cry, "Spring! It is spring!"

Bear the winter off with you, O wild geese dear!
Carry all the cold away, far away from here;
Chase the snow into the north, O strong of heart and wing,
While we share the robin's rapture, crying, "Spring! It is spring!"
—*Celia Thaxter.*

In order to make education more harmonious and complete, there is felt a need of something which not only tolerates, but actually encourages and fosters the spontaneous activity, something to cultivate the observant use of hand and eye, something by means of which the mental and physical activity of the pupil may be called forth, something to develop the wholesome desire to do something, to make something.

—*R. G. Dickson, Secretary of Education for England.*

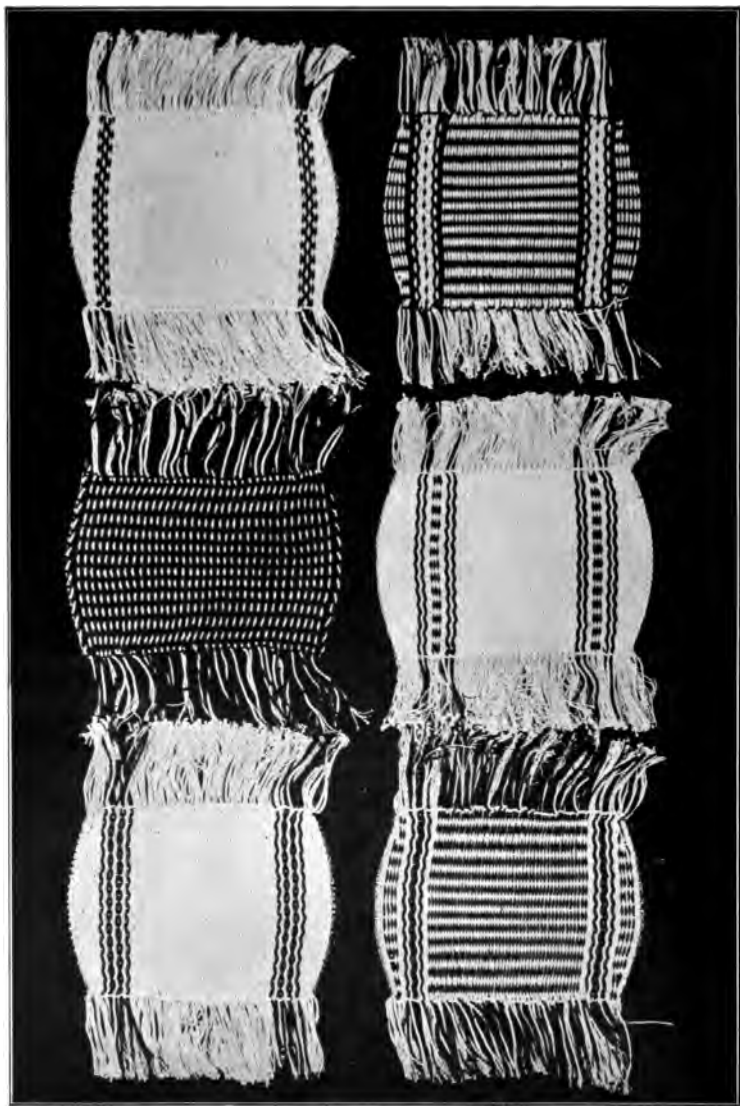
50. Hammock

Material—Two brass rings, heavy twine, and a strawboard loom 7 x 10 inches. (Not more than two colors should be used in one hammock.)

Warp and woof the same material. Weave with a large darning needle.

For the warp cut the twine 14 yards long. For the woof 12 inches long will allow for the fringe.

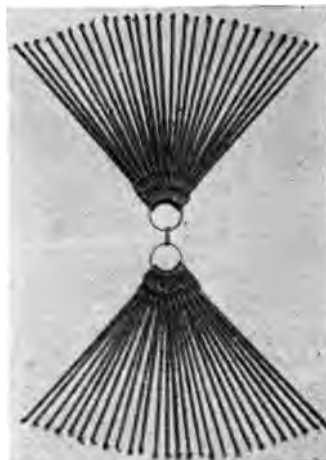
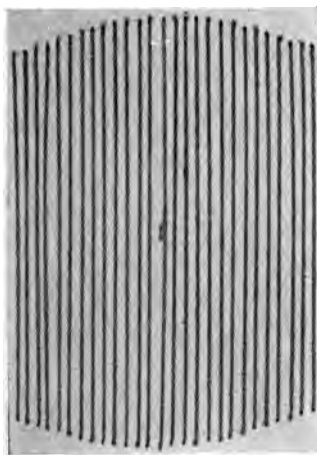
To get the loom ready for stringing, place it in front of you with the ends horizontal. Measure down $1\frac{1}{4}$ inches, and draw a line parallel to the top edge. In the center of this line, and $\frac{3}{4}$ of an inch toward the top, make a dot and draw a line curved slightly toward the two sides. On the curved line make dots $\frac{1}{4}$ of an inch apart, and you will have twenty-seven dots. Punch dots with small



Dolls' hammocks

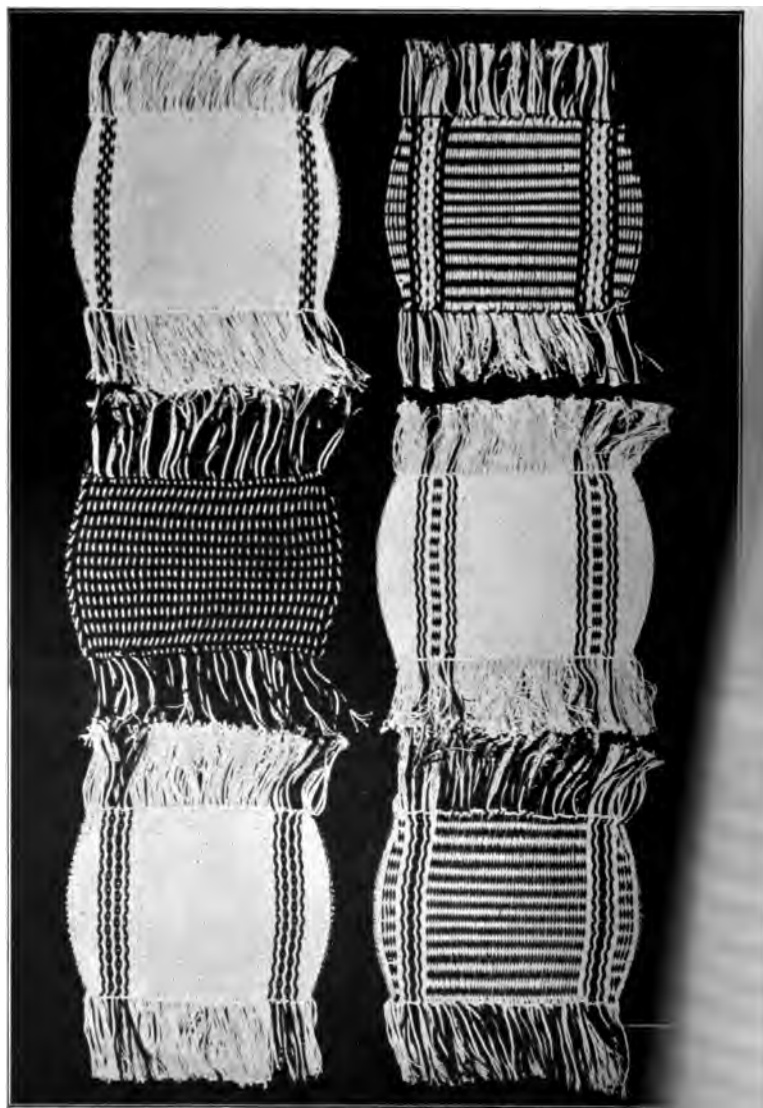
Second Year Work

punch. Make the opposite end just like this. Connect these two ends by diagonal lines crossing the center, and fasten the two rings in the upper and lower angles, near the center.



Front and back of hammock looms

Thread the needle. Fasten one end of the warp in the upper ring, leaving about 6 inches. Put the needle through the outside hole at the top, then straight across to the outside bottom hole. Pull through and fasten in the lower ring, then back to the second hole from the bottom, straight across to the second hole from the top, then down to the upper ring, through the ring and back to the third hole from the top, across to the third hole from the bottom and through the lower ring, then back through the fourth hole from the bottom. Proceed in this way until all of the holes are strung. Fasten the end in the lower ring, and weave back and forth two or three times above the ring. Fasten the opposite end in the same way, above the upper ring. Now you are ready to weave.



Dolls' hammocks

Industrial Work

Begin at one end and weave about $\frac{1}{2}$ of an inch below the curve with the body color, then weave a border, using the body color with one other color. Be very careful not to let the threads of the warp draw together in the center of the hammock. When ready for the other end weave the border to match. Fasten the ends and edges with double weaving, and remove the hammock.

51. Borders for Hammocks

Body color red

1

2 rows of white
2 rows of red
1 row of white
2 rows of red
7 rows of white
2 rows of red
1 row of white
2 rows of red
2 rows of white

Body color green

2

1 row of green
1 row of white
1 row of green
2 rows of white
3 rows of green
5 rows of white
3 rows of green
2 rows of white
1 row of green
1 row of white
1 row of green

Body color yellow

3

2 rows of white
4 rows of yellow
3 rows of white
1 row of yellow
3 rows of white
1 row of yellow
3 rows of white
4 rows of yellow
2 rows of white

Body color red

4

4 rows of white
2 rows of red
1 row of white
2 rows of red
1 row of white
2 rows of red
4 rows of white

Body color red

5

3 rows of white
3 rows of red
2 rows of white
1 row of red
1 row of white
1 row of red
1 row of white
1 row of red
2 rows of white
3 rows of red
3 rows of white

Body color white

6

2 rows of red
2 rows of white
2 rows of red
4 rows of white
1 row of red
1 row of white
1 row of red
1 row of white
1 row of red
4 rows of white
2 rows of red
2 rows of white
2 rows of red

Second Year Work

Body color red

7

3 rows of white
2 rows of red
1 row of white
2 rows of red
5 rows of white
2 rows of red
1 row of white
2 rows of red
3 rows of white

Body color white

8

6 rows of green
4 rows of white
2 rows of green
1 row of white
2 rows of green
4 rows of white
6 rows of green

Body color white

9

1 row of yellow
1 row of white
1 row of yellow
1 row of white
3 rows of yellow
2 rows of white
7 rows of yellow
2 rows of white
3 rows of yellow
1 row of white
1 row of yellow
1 row of white
1 row of yellow

Body color white

10

4 rows of red
4 rows of white
1 row of red
1 row of white
1 row of red
1 row of white
3 rows of red
1 row of white
1 row of red
1 row of white
1 row of red
4 rows of white
4 rows of red

Body color green

11

2 rows of white
2 rows of green
3 rows of white
2 rows of green
1 row of white
2 rows of green
3 rows of white
2 rows of green
2 rows of white

Body color white

12

1 row of green
1 row of white
1 row of green
2 rows of white
3 rows of green
5 rows of white
3 rows of green
2 rows of white
1 row of green
1 row of white
1 row of green

GENERAL WORK

Review and enlarge the general lines of work suggested for March,
First Year Work.

Industrial Work

April

UNDER THE LEAVES

Oft have I walked these woodland paths,
Without the blessed foreknowing
That underneath the withered leaves
The fairest buds were growing.

To-day the south wind sweeps away
The types of autumn's splendor,
And shows the sweet arbutus flowers,—
Spring's children, pure and tender.

O prophet — flowers! — with lips of bloom,
Outvying in your beauty
The pearly tints of ocean shells,—
Ye teach me faith and duty!

Walk life's dark ways, ye seem to say,
With love's divine foreknowing,
That where man sees but withered leaves,
God sees sweet flowers growing.

—*Albert Loughton.*

There is no glory in star or blossoms
Till looked upon by a loving eye;
There is no fragrance in April breezes
Till breathed with joy as they wander by.

—*From "An Invitation to the Country," by William Cullen Bryant.*

Manual training is designed to cultivate love and respect for hard, persistent work; it cultivates a contempt for human beings, rich or poor, whose main purpose in life is to avoid labor.

—*Francis W. Parker.*

Second Year Work

52. Easter Basket

Material—Heavy drawing paper.

Draw an 8-inch square. Draw its diameters. Take the point of intersection of the diameters as a center, and draw a 6-inch circle. Take the four points where the circumference crosses the diameters, as centers, and draw four 2-inch circles. Take the eight points, where the four small circles cross the large circle, as centers, and draw eight 2-inch circles.

Taking the points where these circles cross the diameters for corners, construct a second square for the bottom of the basket. Cut out the four small circles first drawn. We now have eight crescents left. Cut around the outside edge of



Easter basket

these, and also along the circumference of the large circle, between the crescents. Fold on the small square. Draw the tips of the crescents together and tie with narrow ribbon. Cut a handle 8 x $\frac{1}{2}$ inches, and paste inside of the basket.

53. Flower Booklets

Copy the following quotations upon separate sheets of paper.

Tie the sheets together and decorate the covers with water-color sketches of flowers or spring landscapes.

TO THE DANDELION

Dear common flower, that grow'st beside the way,
Fringing the dusty road with harmless gold,
First pledge of blithesome May.

—*James Russell Lowell.*

Industrial Work

THE DAFFODILS

I wandered lonely as a cloud
That floats on high o'er vales and hills,
When all at once I saw a crowd,—
A host of golden daffodils,
Beside the lake, beneath the trees,
Fluttering and dancing in the breeze.
—*William Wordsworth.*

VIOLET

She comes, the first, the fairest thing,
That heaven upon the earth doth fling —
Ere winter's star has set ;
She dwells behind her leafy screen
And gives, as angels give, unseen.
—*Selected.*

PASQUE-FLOWER

"The winter snows were hardly gone,
When in her robes of fur
The pasque-flower came to cheer our hearts ;
We ran to welcome her."

ARBUTUS

"And when I had gone to the hillside
To welcome the springtime so new,
I was led by the delicate fragrance
To the place where the arbutus grew."

JACK-IN-THE-PULPIT

Jack-in-the-pulpit preaches to-day
Under the green trees just over the way.
—*J. G. Whittier, "Child Life."*

PANSY

Rich purple-hued velvets the Pansy maids wear,
While cunning caps rest on their long yellow hair.
—*Lydia H. Freeman.*

Second Year Work

LILACS

Of all the bonny buds that blow
In bright or cloudy weather,
Of all the flowers that come and go
The whole twelve months together,
This purple lilac blossom brings
Thoughts of the gayest, gladdest things.

— *Selected.*

THE APPLE ORCHARD IN THE SPRING

Have you seen an apple orchard in the spring?
An English apple orchard in the spring?
When the spreading trees are hoary
With their wealth of promised glory,
And the mavis sings its story,
In the spring.

— *William Martin*

FORGET-ME-NOT

When to the flowers — so beautiful —
The Father gave a name,
Back came a little blue-eyed one,
All timidly it came
And standing at its Father's feet,
And gazing in his face,
It said in low and trembling tones,
With sweet and gentle grace,
“Dear God, the name thou gavest me,
Alas! I have forgot.”
Then kindly looked the Father down,
And said, “Forget-me-not.”

— *From “Fairyland of Flowers.”*

SWEET PEAS

Here are sweet peas, on tiptoe for a flight,
With wings of gentle flush o'er delicate white,
And taper fingers catching at all things,
To bind them all about with tiny rings.

— *John Keats.*

Industrial Work

NASTURTIIUM

I am the gay nasturtium,
I bloom in gardens fine ;
Among the grander flowers
My slender stalk I twine.
Bright orange is my color
The eyes of all to please,
I have a tube of honey
For all the bees.

—*Lucy Wheelock.*

CLOWERS

The clovers have no time to play ;
They feed the cows and make the hay,

And trim the lawns, and help the bees,
Until the sun sinks through the trees.

And then they lay aside their cares,
And fold their hands to say their prayers,

And drop their tired little heads,
And go to sleep in clover beds.

—*Helena L. Jelliffe.*

TIGER-LILIES

I like not lady-slippers,
Nor yet the sweet-pea blossoms,
Nor yet the flaky roses,
Red, or white as snow ;
I like the chaliced lilies,
The heavy Eastern lilies,
The gorgeous tiger-lilies,
That in our garden grow !

—*Thomas Bailey Aldrich.*

Second Year Work

GENERAL WORK

Make Easter cards, and decorate them in different ways.
Broaden and deepen the lines of work suggested for April, First
Year Work.
Illustrate spring poems, as :

GREEN THINGS GROWING

O the green things growing, the green things growing,
The faint sweet smell of the green things growing !
I should like to live, whether I smile or grieve,
Just to watch the happy life of my green things growing.

O the fluttering and the pattering of those green things growing !
How they talk each to each, when none of us are knowing ;
In the wonderful light of the weird moonlight
Or the dim, dreamy dawn when the cocks are crowing.

I love, I love them so—my green things growing !
And I think that they love me, without false showing ;
For by many a tender touch, they comfort me so much,
With the soft mute comfort of green things growing.

— *Dinah Mulock Craik.*

May and June

THE THROSTLE

“Summer is coming, summer is coming,
I know it, I know it, I know it,
Light again, leaf again, life again, love again,”
Yes, my wild little poet.

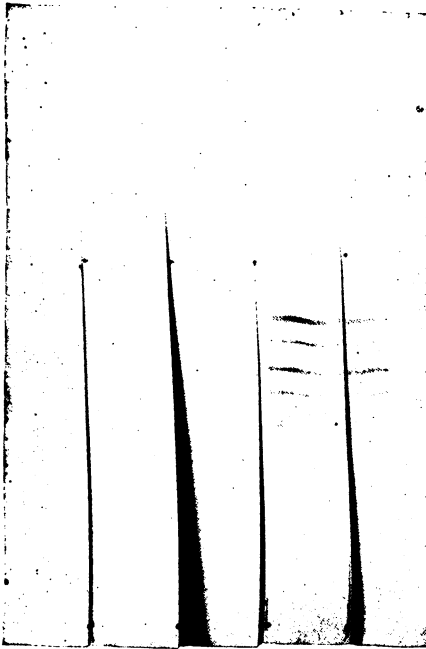
Sing the new year in under the blue,
Last year you sang it as gladly.
“New, new, new !” Is it then so new
That you should carol so madly?

Industrial Work

"Love again, song again, nest again, young again,"
Never a prophet so crazy!
And hardly a daisy as yet, little friend,
See, there is hardly a daisy.

"Here again, here, here, here, happy year!"
O, warble unchidden, unbidden!
Summer is coming, is coming, my dear,
And all the winters are hidden.

—*Alfred Tennyson.*



The paper cut

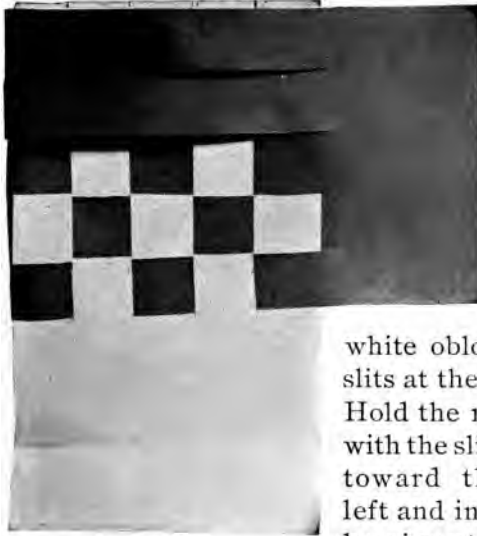
The child enters into the industrial commercial activity, and the life of the world, through his hands and his brain. He has very little interest, in general, in things outside of his own environment, until that interest is stimulated through the work of his hands. To illustrate: Work in wood means images of woodwork, realization of images, interest in all things made of wood, from the simplest box to the magnificent structure. The child cannot make an article of furniture without always being more or less interested in furniture.

—*Francis W. Parker.*

54. May Basket

Take two strips of colored paper, red on one side and white on the other, each strip $9 \times 2\frac{1}{2}$ inches. Fold the short edges together. Crease. Fold one strip with the red outside and one with the white outside. When folded you have two oblongs,

Second Year Work



Partly woven

Take the closed end of the lower red strip, open it and slip it over the first white strip at the right, between the path of the second white strip, over the third, between the path of the fourth and over the fifth. Take the second red strip, place the closed end between the path of the first white strip, over the second, between the third, over the fourth, and between the path of the fifth. Repeat until

each $2\frac{1}{2} \times 4\frac{1}{2}$ inches. On the crease make dots $\frac{1}{2}$ of an inch apart; $2\frac{3}{4}$ inches from the crease make dots $\frac{1}{2}$ of an inch apart, and connect the upper row of dots with the dots on the crease by straight lines. Cut on the lines. Repeat on the other oblong. Hold the

white oblong in the left hand with the slits at the top and in a vertical position. Hold the red oblong in the right hand with the slits toward the left and in a horizontal position.



The completed basket

Industrial Work

all strips are woven. Cut the open ends of the oblong to form a heart and paste a handle at the center.

55. Folded May Basket

Material— Colored paper, red on one side, white on the other.

Take a 6-inch square. Fold on its diagonals. Unfold. Then fold the corners to the center of the square. Keep them folded,



A May basket

turn the plain side upward and fold each corner to the center. Reverse paper so you can see four squares whose loose corners meet at the center of the large square. Fold the loose corner of the upper right square to the upper right corner of the paper. Fold the other corners in the same way. Fold each corner inward to the center of the triangle, and with this small triangle still folded, fold once more toward the center, but do not crease.

Fold five squares like this, four for the sides and one for the bottom. The back of each square is composed of four triangles meeting in the center.

For the bottom of the basket, paste these four triangles to the fifth square.

For the sides, paste the lower triangle to the bottom of the basket, and also paste the edges of the triangles at the sides together.

Second Year Work

Cut two handles. Paste one upon the right and left sides of the basket. Paste the other upon the front and back. Where they cross at the top, paste them together.

56. Bird Booklets

Copy the following quotations upon separate sheets of paper. Tie them together and decorate the covers in some artistic way.

THE HUMMING BIRD

A flash of harmless lightning,
A mist of rainbow dyes,
The burnished sunbeams brightening,
From flower to flower he flies.

—*John Bannister Tabb.*

THE BLACKBIRD

Blackbird! sing me something well;
While all the neighbors shoot thee round,
I keep smooth plats and fruitful ground,
Where thou may'st warble, eat and dwell.

—*Alfred Tennyson.*

THE SONG SPARROW

There is a bird I know so well,
It seems as if he must have sung
Beside my crib when I was young;
Before I knew the way to spell
The name of even the smallest bird,
His gentle, joyful song I heard.

—*Henry Van Dyke*

THE ROBIN

The sweetest sound the whole year round —
'Tis the first robin of the spring —
The song of the full orchard choir
Is not so fine a thing.

—*Edmund Clarence Stedman.*

Industrial Work

TO AN ORIOLE

How falls it, oriole, thou hast come to fly
In tropic splendor through our northern sky?

At some glad moment was it nature's choice
To dower a scrap of sunshine with a voice?

Or did some orange tulip, flaked with black,
In some forgotten garden, ages back,

Yearning toward Heaven till its wish was heard,
Desire unspeakable to be a bird?

—*Edgar Fawcett.*

THE BLUEBIRD

The bluebird chants from the elm's long branches,

A hymn to welcome the budding year.

The south wind wanders from field to forest,

And softly whispers, "The spring is here."

—*From "An Invitation to the Country," by William Cullen Bryant.*

THE KINGFISHER

Have you ever seen my fisher-friend

Where some lone brook is flowing,

When summer's skies are blue and clear,

And summer's flowers are blowing?

—*Alix Thorn.*

THE SKYLARK

Bird of the wilderness,

Blithesome and cumberless,

Sweet be thy nature o'er moreland and lea!

Emblem of happiness,

Blest is thy dwelling-place;

O to abide in the desert with thee!

—*James Hogg.*

Second Year Work

THE BOBOLINKS

When nature had made all her birds,
With no more cares to think on
She gave a rippling laugh, and out
There flew a Bobolinkon.

—*Christopher Pearse Cranch.*

THE EAGLE

He clasps the crag with hooked hands;
Close to the sun in lonely lands,
Ring'd with the azure world he stands.

—*Alfred Tennyson.*

THE OWL

In the hollow tree, in the old gray tower,
The spectral owl doth dwell;
Dull, hated, despised, in the sunshine hour,
But at dusk he's abroad and well!
Not a bird of the forest e'er mates with him;
All mock him outright by day;
But at night, when the woods grow still and dim,
The boldest will shrink away!
O, when the night falls, and roosts the fowl,
Then, then, is the reign of the horned owl!

—*Bryan Waller Procter ("Barry Cornwall").*

GENERAL WORK

Almost the entire work of these months should be along the lines of nature study and the preparation for summer.

Field lessons should take the place of indoor work, and the manual training should be caring for seeds and plants, chickens and birds.

Make bean bags and marble bags, and have them used.

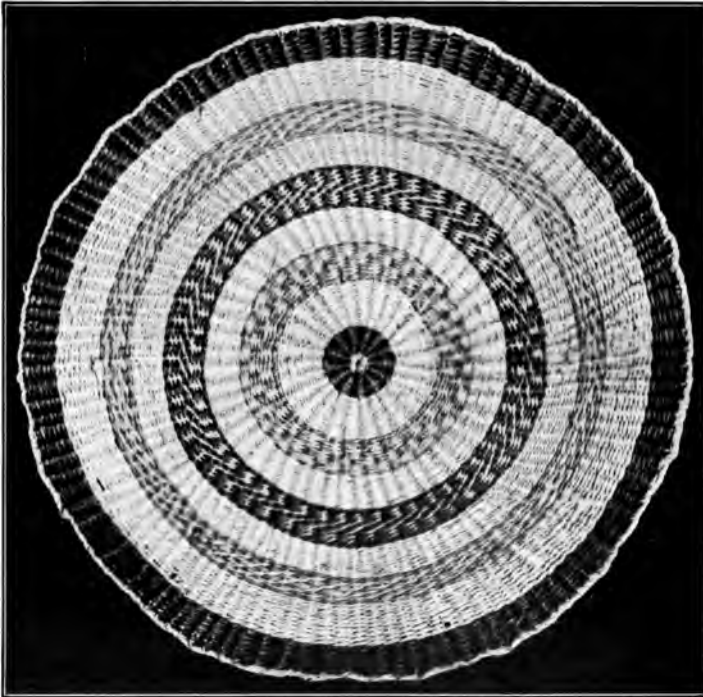
Paint flowers, twigs, and landscapes with water colors.

And what is so rare as a day in June?

Then, if ever, come perfect days.

—*From "June Days," by James Russell Lowell.*

Industrial Work



A rattan woven raffia mat

THIRD YEAR WORK

THE POTTER

The potter stood at his daily work,
One patient foot on the ground;
The other with never-slackening speed
Turning his swift wheel round.

Silent we stood beside him there,
Watching the restless knee,
Till my friend said low, in pitying voice,
"How tired his foot must be!"

The potter never paused in his work,
Shaping the wondrous thing;
'Twas only a common flower-pot,
But perfect in fashioning.

Slowly he raised his patient eyes,
With homely truth inspired;
"No, marm; it isn't the foot that works,
The one that stands gets tired!"

—*Selected.*

Interest in the thing he is making gives the child an interest in the way in which other people of the world are doing the same thing. The desire to make his basket beautiful leads him to the study of the baskets of the Indians, Hawaiians, and South Americans. Questions in the color arrangements of the rug he is weaving drives him with eager questions to the Orient, and the wonders of color combination which are, as yet, so far beyond him. Thus problems arising in his own work take him out to all people of all parts of the earth.

Expression is essentially doing; it is that toward which all human action moves, and, indeed, should move. The motive of expression impels the soul to its best effort in observation, study, and reasoning.

—*Francis W. Parker.*

Industrial Work

57. Splint Basket

Material—Colored splints of different widths.

Take eighteen splints 14 inches long and $\frac{1}{2}$ of an inch wide. Place nine of them in a horizontal position, and with the other nine weave a mat $4\frac{1}{2}$ inches square, for the bottom of the basket. Leave the ends the same length on each of the four sides. Wet the splints around the edge of the mat, or bottom, so that they will bend easily. Turn them up for the sides.



Splint baskets

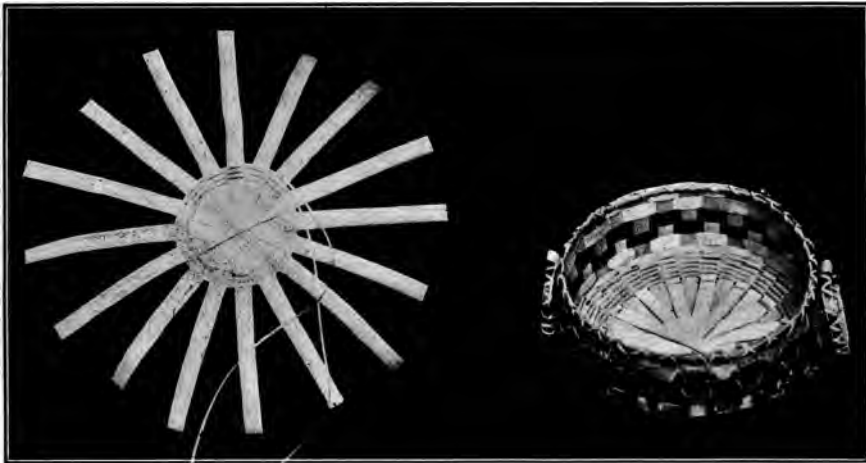
Take six splints $\frac{1}{2}$ of an inch wide and 22 inches long, for the sides of the basket. Weave under one and over one, until you are around the basket, then lap the weaver over and under the same ribs, as at the beginning. Take the second weaver and work in the same way, then the third, etc. When you have the sides woven to within $1\frac{1}{2}$ inches of the end of the ribs, finish the top by bending every other rib to the inside, being careful to take the rib that holds the last

weaver in place. Push this rib under the third weaver from the top. This will hold it in place. Cut off the ribs left upright, and the simplest splint basket is finished. This may be varied in many ways.

Ways of Finishing the Tops of Splint Baskets. After the ribs are fastened down, take a splint the width of the last weaver. Place this *inside*, at the top of the basket, and take some sweet grass for

Third Year Work

a roll, on the *outside* of the basket. Bind these to the top of the basket with a very narrow splint, as follows: Hold the splint and grass in place with the left hand, and with the right hand take the narrow splint, $\frac{1}{8}$ of an inch wide, and sew over and over, between each rib of the basket. If the ribs are very far apart, when you have sewed around once, turn and go back in the opposite direction. This will make the stitches cross upon the top.



The bottom of a round splint basket, and completed basket

Edge No. 2. After the ribs are fastened, hold the basket with the *outside* toward you. Take a long splint the width of the weaver. Pass this under any rib that has been fastened down, on the top row. Pull this toward you, then turn this splint from you and push it under the rib, in the second row from the top, just under where it came out in the first row. Pull this splint toward you, leaving a little roll. Put the end under the next rib on the

Industrial Work

top row. Leave a little roll in the splint and pass to the next rib, on the second row. Proceed in this way until the top is finished. Join the end under any rib.

If you wish little handles upon the side, make a ring about 6 inches in circumference, having splint upon the inside and sweet grass upon the outside. Bind these together with the narrow splint, sewing over and over.

To fasten the rings to the basket, take a piece of splint the width of the ribs. Fold it around the ring, and push the ends down under the weavers and over the rib, at the middle of the basket.

In weaving these baskets, many beautiful effects are secured by using weavers of different widths. Sometimes take the ribs $\frac{1}{2}$ of an inch wide and have the weavers only $\frac{1}{8}$ of an inch wide. Weave several rows with the splints, then make a border, using sweet grass and splints.

The basket in the cut has a braid of sweet grass fastened in with the fancy weave. The two rows of weaving and the roll, or fancy weave, are of green.

The round baskets are made in the same way, only the splints are crossed upon the bottom instead of being woven like a mat.

RATTAN WORK

TERMS USED

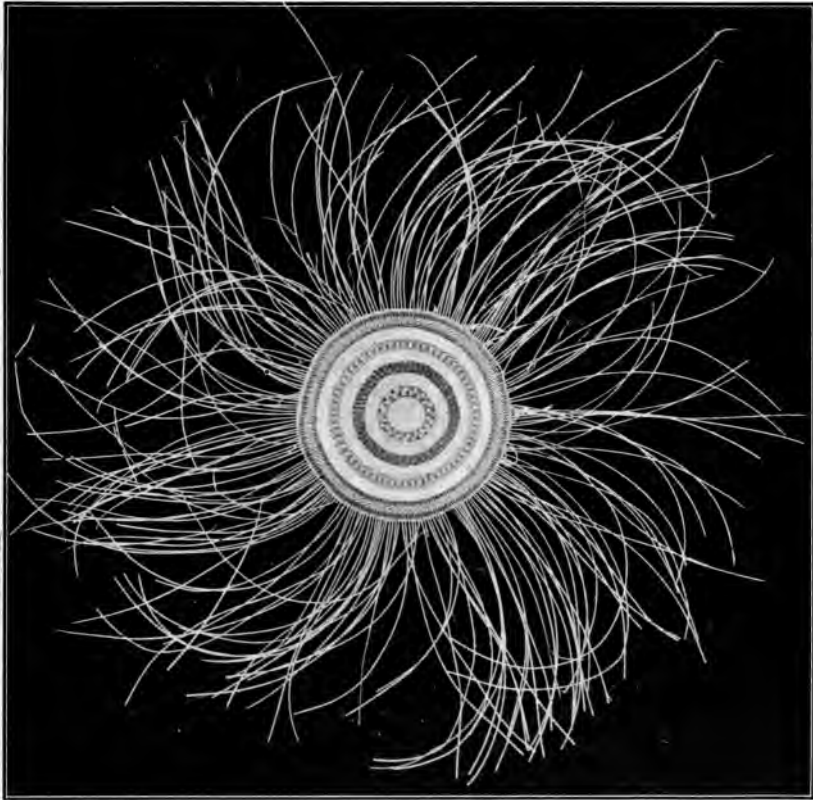
The *ribs* or *spokes* form the foundation of the basket.

The *weaver* is the piece of rattan which is worked in and out between the spokes of the basket.

Single weaving. In this the weaver is placed behind one spoke, then in front of the next spoke, etc., thus alternating.

Double weaving. This is where two weavers are used in the place of one, and in the same way and at the same time.

Third Year Work



Beginning of a woven rattan mat

Industrial Work

Pairing. Two weavers are used, one passing behind and the other in front of the same spoke. To vary this, as the weavers are passed to the next spoke, cross them, so that the lower weaver will take the place of the upper. This may be used either with an odd or even number of spokes.

Triple twist. In the triple twist three weavers are placed behind three consecutive spokes. Take the back weaver, bring it in front of two spokes and behind one. Then take the weaver next to this, and work in the same way, in front of two spokes and behind one.

In turning up the sides of baskets where additional spokes have been inserted, this is a very good weave to use, because it entirely hides the spokes it crosses. It is also often used as a dividing line, where a different weave is desired, and also at the top of a basket, as a finish, before making the border.

Rattan must always be soaked in cold water and kept wet while working, to prevent its breaking. Ten minutes for No. 1, and one-half of an hour for No. 4, will be about right. Too much soaking makes the rattan dark and rough.

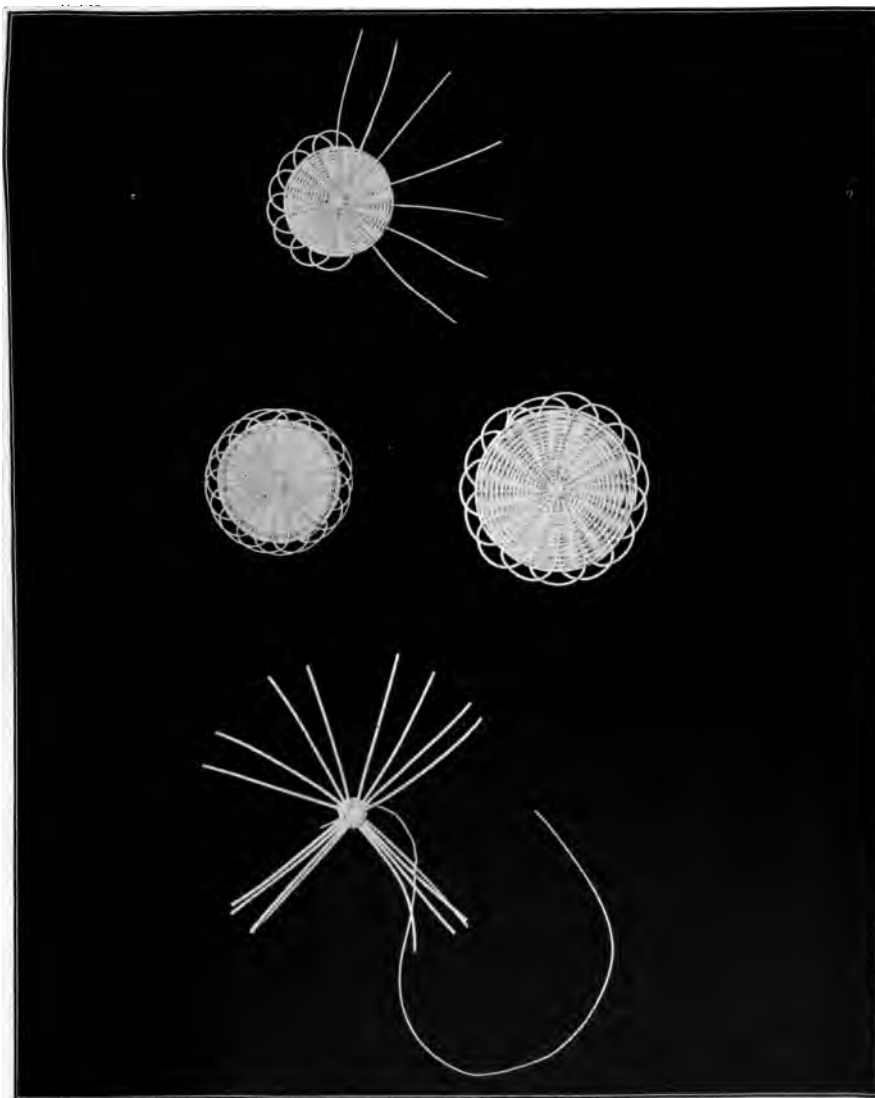
58. Rattan Mat

Material—Rattan Nos. 3 and 1.

Seven spokes of No. 3, 14 inches long, and one spoke of No. 3, 8 inches long. Weavers of No. 1.

Find the center of four of the long spokes, and with a sharp knife make a slit $\frac{1}{2}$ of an inch in each. Through these slits insert the other three long spokes, making a cross like the one shown in the cut. Insert the short spoke until the end shows on the other side.

Take the weaver and push it down beside the three spokes, then pass it in front of the four, behind the next four, in front of



Rattan mats—showing the process of making

Industrial Work

the next four, and behind the three—then bend the weaver in front of the same three, back of the four, in front of the next four, back of the next four, and in front of the three. Weave in this way until the weaver shows twice all the way around. Separate each spoke, and weave under one and over one, until you come to the end of the weaver. Pass this end behind a spoke, and cross the new weaver behind the same spoke. Hold the ends in place with the fingers until you have woven once around. Proceed in this way until $4\frac{1}{2}$ inches of the spokes are left on each side of the mat. Push the end of the weaver down beside a spoke, to hold the weaving taut.

Wet the spokes until they bend easily, point each one and bring it in front of the next spoke to the left, and push it down beside the second spoke.

Be careful to have this border even, and the spokes pushed down the same length, as the beauty of the mat depends upon its evenness. See that the mat is perfectly flat, because it will dry as left.

59. Rattan Basket No. 1

Material—Rattan Nos. 4 and 2.

Eight spokes of No. 4, 20 inches long, and one spoke of No. 4, 11 inches long. Weavers of No. 2.

Begin the basket according to directions given for the mat, and weave until the diameter is about 4 inches.

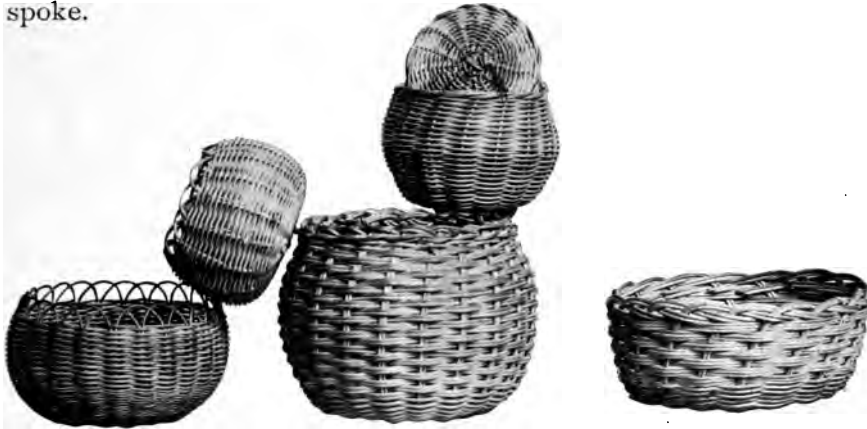
Wet the spokes and turn up each one as the weaver passes it, drawing the weaver a little tight.

Hold the right side of the basket toward you, and weave from left to right. Keep the rows of weaving close together, and an even distance between each spoke. If a spoke is skipped in the weaving, unwind and make the weaving right. One mistake often spoils the effect of the entire work.

Third Year Work

The sides should flare evenly, and it is well to stand the basket upon the desk and turn it around slowly to see if it is even.

Continue the under and over weave until you are ready for the border. Fasten the weaver by pushing the end down beside the spoke.



Rattan baskets

Make an open border the same as the mat, or a simple closed border as follows: Take spoke No. 1, bring it behind No. 2 and in front of No. 3. Take No. 2 and bring it behind No. 3 and in front of No. 4. Proceed in this way until all of the ends are on the outside of the basket. Begin with any spoke and bring it in front of two spokes and behind the next, leaving the end inside of the basket. Repeat until all of the ends are inside. Length of spokes required for this border is 6 inches. After the basket is dry, cut off the ends.

If variety in color is desired, use colored rattan either as a border or in the triple weave, separating the body of the basket from the border. Where three weavers are used as one (see illustration) the middle weaver may be of the colored rattan.

Industrial Work

60. Rattan Basket No. 2

Material—Rattan Nos. 2 and 4.

Eight spokes of No. 4, 24 inches long, and one spoke of No. 4, 13 inches long. Weaver of No. 2.

Weave a base about 6 inches in diameter. Take sixteen spokes 10 inches long, sharpen the ends and push one down beside each spoke, except the last, making thirty-three spokes in all.

Wet the spokes and bend them up for the sides.

Use the triple twist for the first three rows. Then weave about $1\frac{1}{2}$ inches of the plain under and over weave, one row of triple twist, three rows of double weaving (which is simply two



Rattan thread baskets

weavers laid side by side and used as one), and one row of triple twist. Finish with the plain weave and make the border as follows: One row of triple twist, then bring each spoke back of one and in front of two spokes, and inside the basket.

When dry, cut each spoke long enough to lie across the next.

Third Year Work

61. Rattan Basket No. 3

Material—Rattan Nos. 2 and 4.

Make the bottom any size desired, and when ready to turn up the spokes for the sides insert a new spoke at the side of each one used. (Remember to keep an odd number of spokes.) Do not separate these spokes, but use the two as one.

When you turn up the sides, use the triple weave to cover the joining.

Weave the plain weave for 1 inch, then use the double weaving for the remainder of the basket.

Finish with closed border as follows: Using the two spokes as one, take any spoke and pass it behind the first one, to the right, in front of the next, and inside the basket. Repeat in the same way until all spokes are inside the basket. (See low basket in cut.)

The shape of the basket depends upon the way the spokes are held in the weaving, and upon the evenness of the weaving.

If you wish a cover, start it in the same way as the bottom of the basket, and if you have *double* spokes in the basket, have them in the cover. If you have a fancy weave in the side of the basket, weave the cover to correspond with it. Make the border of the cover the same as the basket.

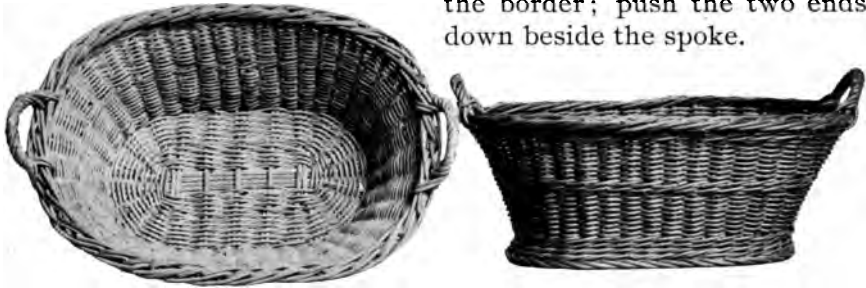
To fasten the cover to the basket, take a piece of rattan, put it around one of the spokes of the cover, just below the border.



An unfinished rattan basket

Industrial Work

Twist the two ends together, allowing sufficient to pass across both the border of the cover and of the basket, and fasten it around a spoke of the basket, just below the border; push the two ends down beside the spoke.

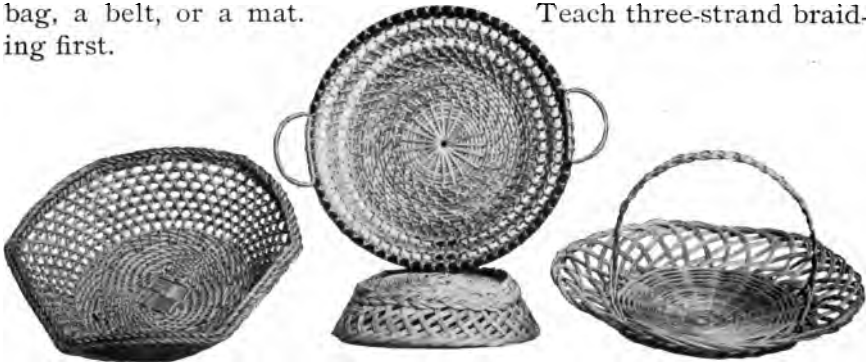


A doll's clothes basket, or waste paper basket

You can vary the baskets in many ways by using different *weaves*, different sizes of rattan, and by making different shapes.

62. Braided Raffia Work

Let the children understand from the first that they are to make something of their braids—a bookmark, a doll's hat, a basket, a bag, a belt, or a mat. Teach three-strand braiding first.



Fancy rattan baskets

Third Year Work

Use several strands of raffia as one, in early work. Tie a knot at the end, to hold the strands together, and always fasten the work to the desk or to the knee.

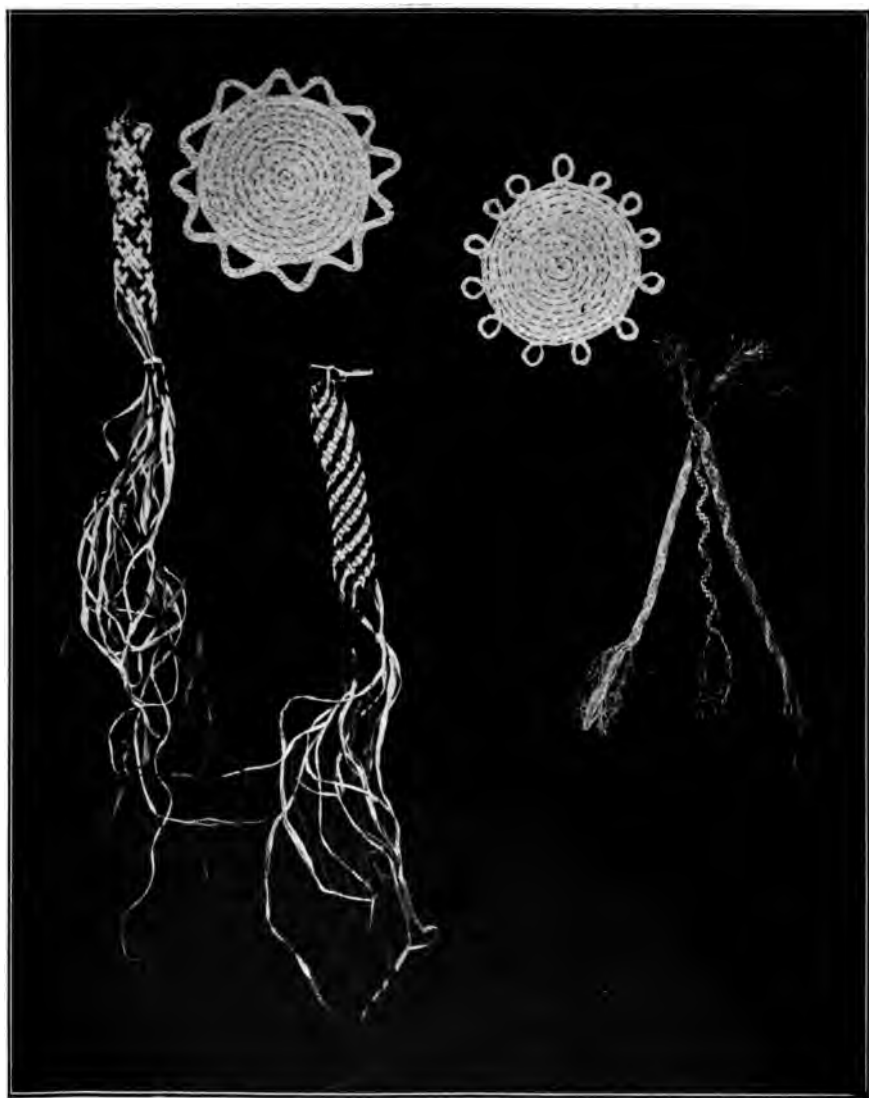
When the raffia becomes small, or is near the end, place in another strand of raffia, and be careful not to join several at the same time. Lap and do not tie.



Rattan baskets

63. Four-Strand Braiding

Select four coarse threads of raffia. Tie a knot in the end, and fasten the work to the desk or knee. Number the first strand from the right 1, the next 2, next 3, and next 4. Begin in the middle. Cross 2 over 3 and under 4—then 3 over 1. Still working from the middle cross 1 over 4 (you then have two strands at the right and two at the left). Now work from the outside: Fold the top strand, at the left, over the lower strand, then the top strand, at the right, under the one below it and over the next, crossing to the left side. Proceed in this way, working first from the left, then from the right, keeping the two strands to the right and two to the left, until you have the required length. When braiding more than three strands, always cross the center strands first. With an even number of strands one outside strand will always fold under, the other will fold *over*. With an odd number the two outside strands will fold the same way. In a five-strand braid cross the 3 over the 4 and under the 5, then 4 over 2 and under 1, then 2 over



Braided raffia bookmarks, mats, and belts

Third Year Work

5 and the 5 over the 1. You then have three strands on the left and two on the right. Begin at the left and fold the upper strand over the strand next below and under the next. Begin at the right side, fold the upper strand over the one below and under the next. Repeat in the same order, first on the left side, then on the right. In the uneven strands one side is just a repetition of the other. In all braiding, fold the sides over evenly, or the work will not be satisfactory.

64. Bookmark

Material—Five strands of raffia, three of tan, and two of green.

Braid a five-strand braid from 6 to 8 inches long. Tie a knot at each end of the braid, leaving 2 inches for a fringe.

65. Mat

Braid a four or five-strand braid. Sew the edges together with fine raffia.

66. Bag

Make two mats the desired size. Sew the edges together, two-thirds of the way around, and make a handle of braided raffia.

GENERAL WORK

The general lines of work should all be continued and broadened in connection with the subject-matter taught. Making, as an expression of the thought



*Braided raffia
purses*

Industrial Work

gained, should always be encouraged, and the crudest efforts freely appreciated. The study of textiles should be an important part of the work of this year, and experiments in spinning, weaving, dyeing, and designing should be encouraged.



A thermometer

In connection with geography and nature study, weather calendars, weather signals, and thermometers should be made. The imaginary journey work will call for mounted pictures and scrap books containing pictures of places of interest, animals, flowers, modes of living, etc.

Number work demands yard and foot rules, boxes of different sizes, clocks, scales for weighing, etc. These are all easily made, and a deep interest in the work is aroused through the making.

Third-grade drawing furnishes numberless opportunities for making, in the way of decorating calendars and cards; lettering booklets, cards, and posters; the illustration of poems, and water-color sketching of many kinds.

Simple work in sewing is most desirable, and bags and many useful articles are easily made.

Whittling is excellent, and, whenever possible, should be used. The locality, needs of the children, and the amount of money that can be expended, should always be considered in planning and arranging a course of handwork.

"A considerable degree of hand-skill, in some directions, gives a child an ability to interpret the vast industrial world about him."

"Manual skill and labor favorably affect the emotions, preserve the disposition, and give elasticity and health to the entire physical system."

"A child's interest in making things, and his

Third Year Work

delight in what he has made, are facts that give a teacher tremendous power over his activity. If you awaken these feelings and develop them, you can do what you like with him."

"Let me have the training in doing things of the young minds in young students, and I will settle all your labor troubles, all your discontent, and I can make happy, healthy, and enthusiastic doers of work."

—*Francis W. Parker.*



A clothes basket

Industrial Work



A rattan and raffia fan

Third Year Work

WHICH IS YOUR KIND?

There are two kinds of people on earth to-day,
Just two kinds of people — no more, I say.

Not the sinner and saint, for 'tis well understood
The good are half bad, and the bad are half good.

Not the rich and the poor, for to count a man's wealth,
You must first know the state of his conscience and health.

Not the humble and proud, for in life's little span,
Who puts on vain airs is not counted a man.

Not the happy and sad, for the swift-flying years
Bring each man his laughter and each man his tears.

No ; the two kinds of people on earth, I mean,
Are the people who lift and the people who lean.

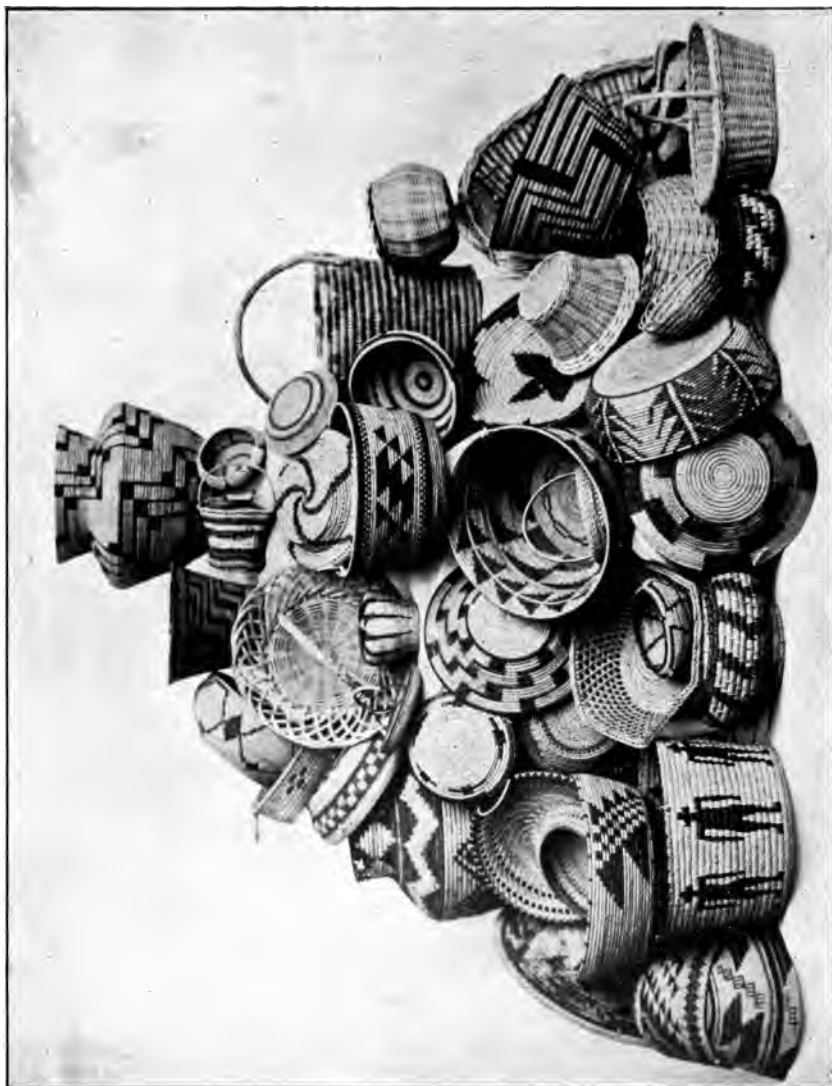
Wherever you go you will find the world's masses
Are always divided into just these two classes.

And oddly enough, you will find, too, I ween,
There is only one lifter to twenty who lean.

In which class are you ? Are you easing the load
Of overtaxed lifters who toil down the road ?

Or are you a leaner, who lets others bear
Your portion of labor and worry and care ?

—*Ella Wheeler Wilcox.*



Raffia and rattan baskets



FOURTH OR FIFTH YEAR WORK

SHADOWS

In my path a shadow lay,
 Stretched before me long and dark;
And I feared the next step onward,
 With a heaviness of heart.

And I tripped and stumbled blindly
 Over stones I could not see;
When a voice of silver sweetness
 Called from overhead to me:—

“Turn about, O weary traveler,
 Face the sunlight of God's day;
'Tis yourself that casts the shadow
 That is darkening your way.

“Face the light, so shall the shadow
 Lie behind thee,—seen no more;
And the stones o'er which you stumbled
 Shall lead up to Heaven's door.”

As I turned to hear the message,
 Slowly turned the shadow, too.
“Could it be,” I thought in wonder,
 “That the angel voice spake true?”

Yes, 'twas self that cast the shadow,
 I have proved it many a time;
For I'm facing God's bright sunlight,
 And the shadow lies behind.

—Annie Marie Bliss.



*Tied stitch rattan
and raffia mats*

Industrial Work

There is a time in every man's education when he arrives at the conviction that envy is ignorance; that imitation is suicide; that he must take himself for better, for worse, as his portion; and though the wide universe is full of good, no kernel of nourishing corn can come to him but through his toil bestowed on that plot of ground which is given him to till.

—*Ralph Waldo Emerson.*

There is really no conflict between manual training and the so-called fundamental studies. The energy and vigor, moral, mental, and physical, acquired in manual training may be carried into all studies.

—*Francis W. Parker.*

"The nature of the conscious activities to be expressed determines the quality of the skill. In the striving of the soul to make the expression adequate to the thought, lies the highest possible and most educative exercise of skill."

"The educational value of this form of manual training cannot be overestimated. First, it is pleasing to the child, and thus the desire to create is stimulated and the inventive faculties cultivated. Symmetry, form, and proportion are taught, and both hand and eye trained to accuracy, while the observing faculties are aroused to notice designs and shapes in various manufactured articles."

67. Tied Stitch Mat

Material—Rattan No. 2 and raffia.

Soak the rattan until it will coil easily. Thread a tapestry needle with the raffia and wind the end of the coil for $\frac{1}{2}$ of an inch and fasten it together in a small ring. Wind, *from you*, twice around the rattan and put the needle

Fourth or Fifth Year Work

through the ring, from the back to the front. Bring the raffia up in front of the ring and rattan, over to the back and through to the front, between the rattan and ring. Cross over the long stitch, that holds the rattan and ring together, to the right, and put the needle between the rattan and ring, from front to back. Bring the raffia across the back of the stitch and under the rattan to the front. This makes the tie. Wind twice around the rattan, from you, through the ring, from the back, over the work and through to the front, between the rattan and ring, and tie as before. Continue in the same way until the ring is full. Fasten the third row to the second, instead of to the ring.

Make the mat the desired size, then point the end of the rattan and fasten the raffia.

Put in a simple pattern with colored raffia. (See cut.)

68. Tied Stitch Basket

Material—Rattan any size, and raffia.

Begin the basket according to directions given for the tied stitch mat. Keep the bottom perfectly flat, and the raffia smooth and even.



Tied stitch baskets

Industrial Work

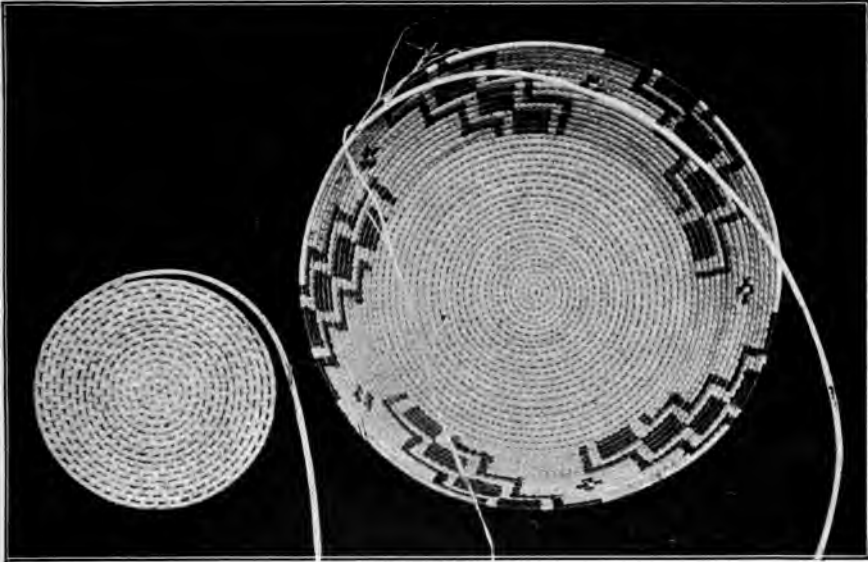


Tied stitch rattan and raffia baskets—made by Minneapolis school children

Fourth or Fifth Year Work

See that the raffia is drawn tightly, keeping the coil close to the coil below.

To make the sides of the basket, hold the rattan on top of the preceding coil and flare it as much as you choose.

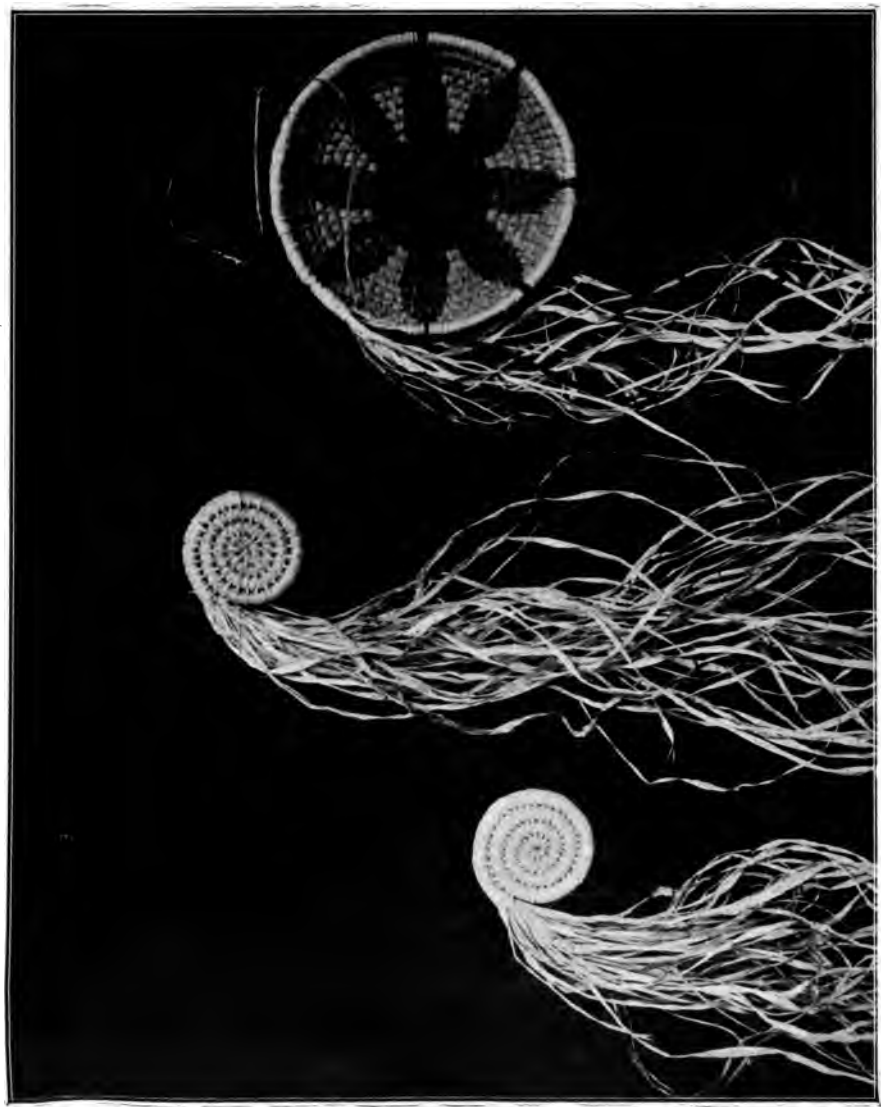


Bottom of a tied stitch basket, and unfinished basket

When ready for a new rattan, splice as follows: Cut away the upper half of about $\frac{3}{4}$ of an inch of one piece, and the lower half of the same length of the other piece. Place them together and they will be the same size as the coil.

Make the same stitch as for the mat, winding from you twice around the upper coil, and then taking a stitch under the rattan, below, and cross over the stitch which fastens the coils together.

When ready to finish off the top, cut the sides of the rattan,



Unfinished solid raffia baskets

Fourth or Fifth Year Work

pointing it gradually for 1 inch, and fasten it to the coil below, or hold the rattan to the *outside* of the last coil, and make a row of two coils on the top.

The beauty of the basket will depend upon the evenness of the coil, and the winding of the raffia. In form, it may be a shallow tray or an exquisite vase shape.

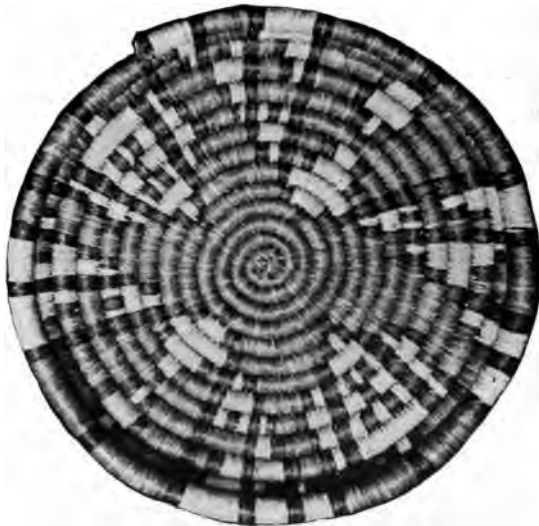
69. Solid Raffia Basket or Plaque

Material—Raffia.

Take strands of raffia and make the coil the desired size. Twelve or fifteen make a good coil.

Thread a large tapestry needle with raffia, and wind the end of the coil and fasten it together as closely as possible. Wind the raffia around the coil two or three times, and put the needle through the top or center of the coil below, from front to back, or under the coil, if you prefer. If put under the coil, it is best to tie the stitch the same as in the tied stitch basket and mat. (See cut of unfinished raffia baskets.)

Many beautiful designs are made by using the upright stitches sewed in such a way as to form the pattern.



A solid raffia plaque



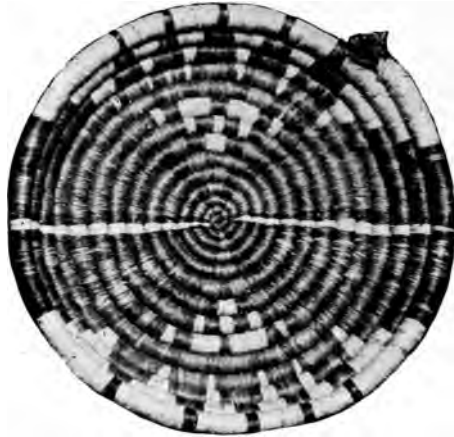
Solid raffia baskets

Fourth or Fifth Year Work

The beautiful spiral effect is produced by putting as many stitches as possible into the first round, and then taking each stitch to the right of the one preceding it. When the stitches become too far apart, put a new stitch between each one, and proceed as before.

Instead of using raffia for the filling, sweet grass, hemp, or even hay may be used.

One of the large plaques in the illustration was made with raffia wound over hay. Several of the baskets were made over grass twine. When you put in the pattern, use two needles, one threaded



A solid raffia plaque

with white and one with colored raffia. Pass the thread not in use along the coil and take up the color as needed.

There is no stitch that admits of greater variety than this one.

When the basket or plaque is ready to finish, either cut the coil a short distance from the winding, or gradually diminish the coil and wind it to the end.

70. Indian Stitch Basket

Material—Rattan and raffia.

Use a large size rattan, with a strand of raffia passed along the top, for the coil.

Thread a fine tapestry needle with fine raffia.

Soak the rattan until it will bend easily. Wrap the end with raffia and fasten it together. Put the thread of raffia over the

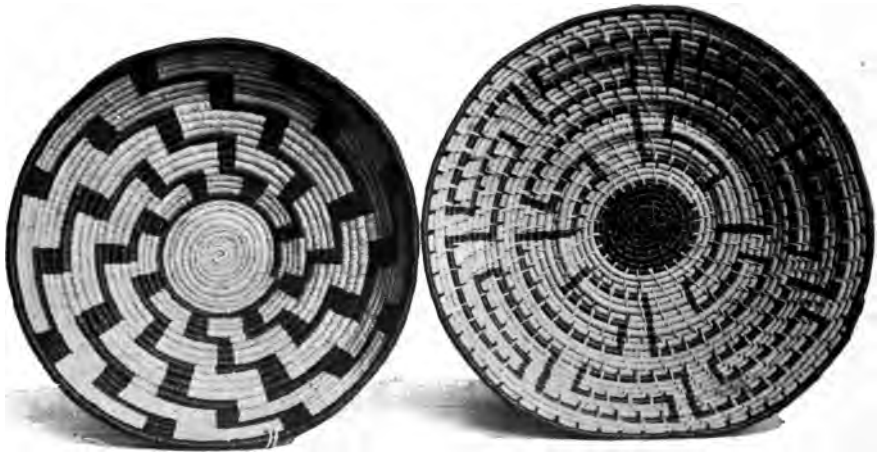
Industrial Work



An Indian stitch basket



A solid raffia basket



Solid raffia plaques

Fourth or Fifth Year Work

rattan once and sew into the strand of raffia at the top of the rattan. Sew from you, putting the needle from front to back each time. This is simply an over-and-over stitch, over the rattan once and stitch into the raffia each time.

Many very beautiful Indian baskets are made with this stitch. Use two needles when putting in the pattern.

Finish the top according to directions already given for coiled baskets.



Indian stitch baskets

The shape is made according to the way you hold the rattan. Much of the beauty of the basket depends upon the fineness of the raffia used for sewing, and the evenness of the stitches.

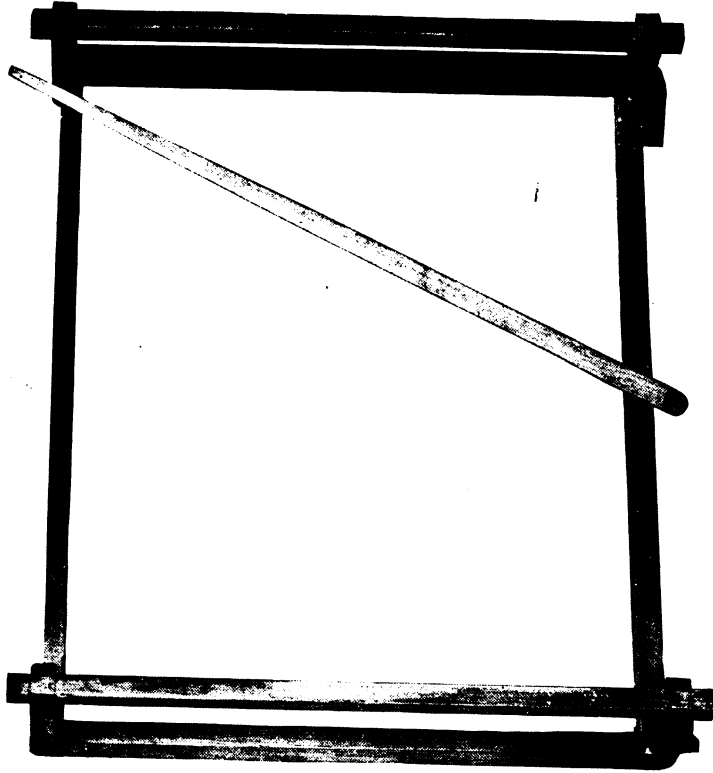
71. Raffia Porch Pillow No. 1

Material—White and colored raffia.

This pillow is made on a 22 x 25-inch wooden loom. The warp and woof are both of raffia.

Industrial Work

To string the loom take ten pieces of raffia, with the coarse ends together. Hold them in the left hand, and with the right hand bring the ends around the crossbar, at the top of the loom,



A pillow loom

then over the bunch of raffia, then under and out. This ties a single knot and brings the bunch of raffia at the top of the crossbar. Pull the bunch straight across the loom, on top of the

Fourth or Fifth Year Work

crossbar, and around the bar to the underside. Now separate the raffia in halves, and bring each half up around the bunch and tie twice, on top of the bar, so it will not slip.

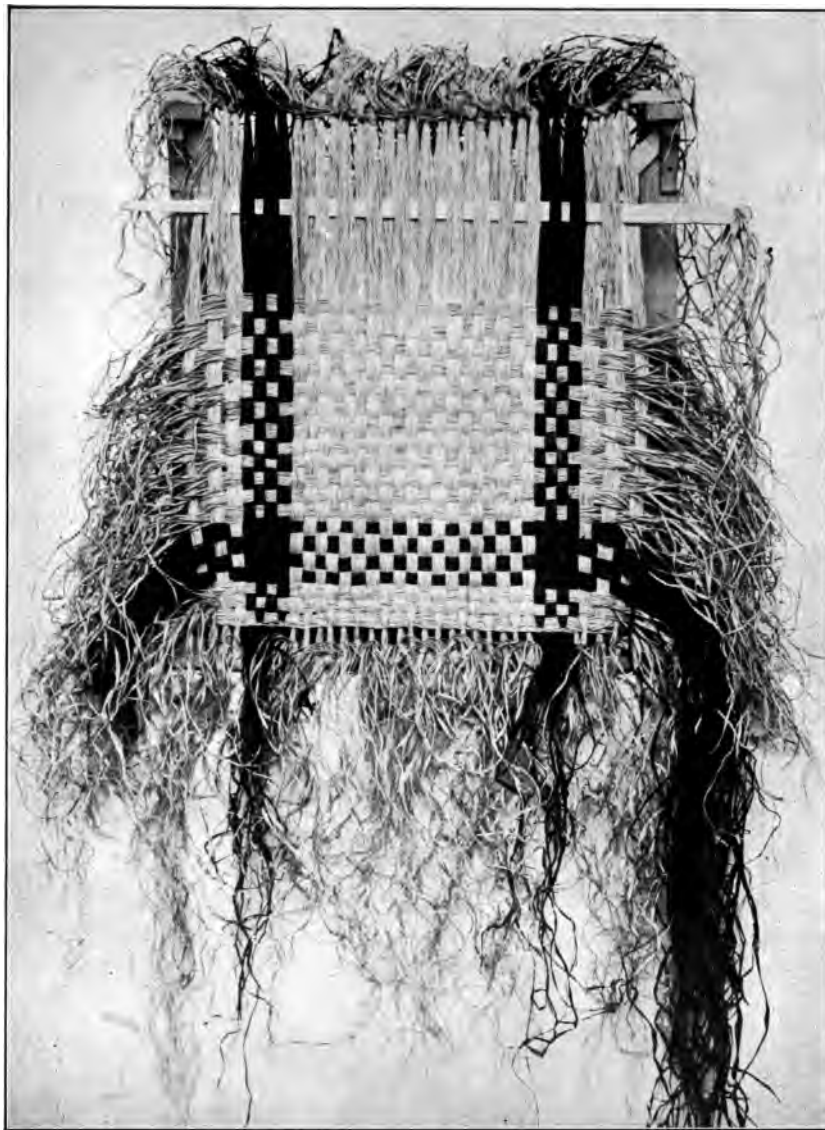
Take another bunch and tie the large end close to the end just tied. Pull this straight across at the top of the bar, divide it in halves, and tie as before. In this way the large end will be tied, first, at the top of the loom; second, at the bottom; third, at the top, etc. This will keep the warp even. Tie the bunches of raffia close enough together to weave smoothly, until you have the desired width.

Thread a large darning needle with raffia. Fasten the end of the thread at the upper right corner, about $\frac{1}{2}$ of an inch from the crossbar, and tie around the first bunch, buttonhole stitch. Pass the thread to the next bunch, and tie each bunch in this way until you have tied across the entire end. Be careful in tying to keep the bunches the same distance apart.

For the weaving needle take a piece of wood about $\frac{1}{4}$ of an inch thick, 1 inch wide, and 22 inches long. Make this smooth and even. Cut a hole in the large end $\frac{1}{4} \times \frac{1}{2}$ inches, for the eye of the needle.

Thread the needle with ten strands of raffia, and weave under one bunch and over one, leaving about 5 inches of raffia for the fringe. Weave in this way until five or six rows are woven, then push the woof together as closely as possible. Continue weaving in this way until you have a square. There will not be as many rows in the woof as the warp, but you must keep pushing the woof close together.

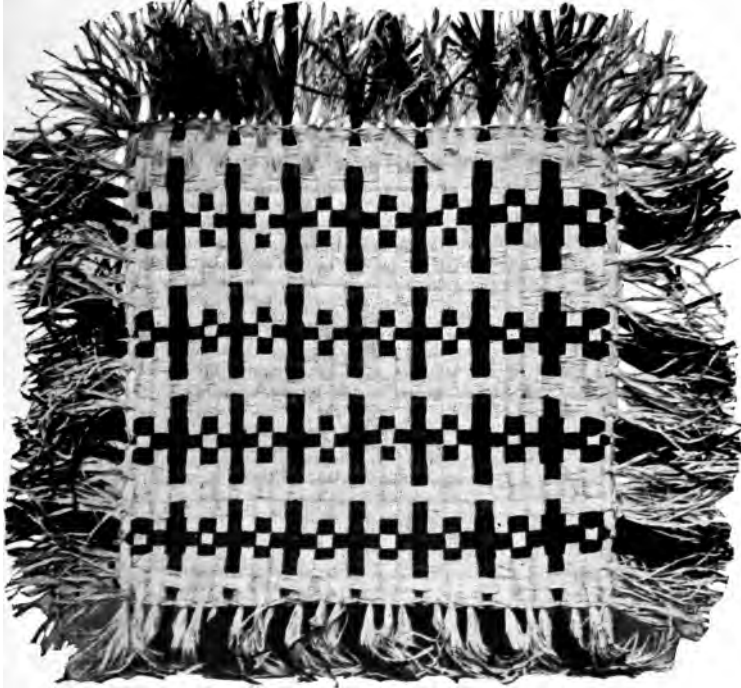
When the woof is all in, buttonhole across the end, measure often with the opposite end to keep it the same width. Now buttonhole down each side, pulling the woof and pushing the warp close together at the sides.



An unfinished raffia porch pillow

Fourth or Fifth Year Work

Cut the fringe about 5 inches long, untie the raffia at the opposite end. Cut this and the sides to correspond, and one-half of the pillow is finished.



A raffia porch pillow

Weave another square just the size of this, buttonhole the two sides together, leaving room at one end to fill the pillow.

Use all the ends of raffia not used in the weaving, to stuff the pillow. Mix in some excelsior, as it does not mat down quickly.

When the pillow is stuffed as full as you wish, join the opening with the buttonhole stitch.

Industrial Work

Different designs can be made by using color in both the warp and the woof.

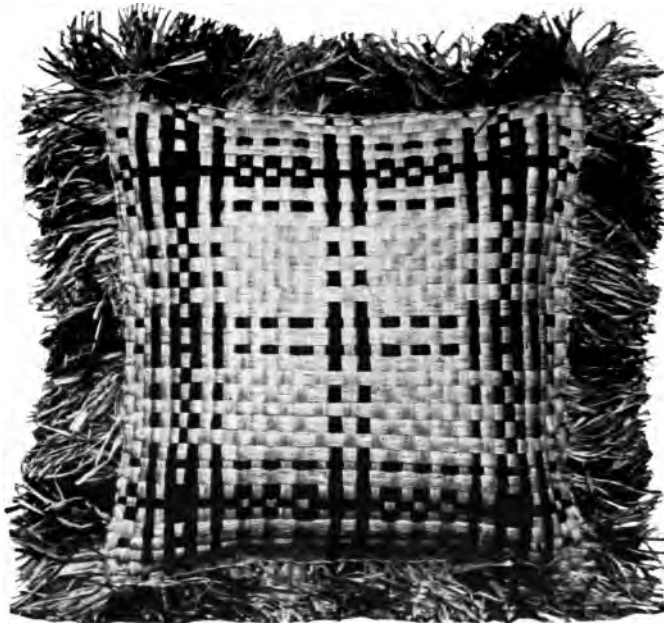
The pillow shown in the cut was made as follows :

Warp

3 bunches of white
1 bunch of brown
3 bunches of white
1 bunch of brown
3 bunches of white
1 bunch of brown
3 bunches of white
1 bunch of brown (middle row)
Repeat in reverse order.

Woof

3 bunches of white
3 bunches of brown
3 bunches of white
3 bunches of brown
3 bunches of white (middle row)
Repeat in reverse order.



A raffia porch pillow

Fourth or Fifth Year Work

72. Porch Pillow No. 2

Another very attractive pillow can be made as follows:

Warp

3 bunches of white
1 bunch of red
1 bunch of white
3 bunches of green
1 bunch of white
1 bunch of red

7 bunches of white
1 bunch of red
1 bunch of white (middle row)
Repeat in reverse order.
Weave the woof in the same order
as the warp.

73. Porch Pillow No. 3

Front of Pillow

3 bunches of white
3 bunches of blue
3 bunches of white
1 bunch of blue
3 bunches of white
3 bunches of blue
3 bunches of white
1 bunch of blue (middle row)
Repeat in reverse order.

Back of Pillow

5 bunches of white
1 bunch of blue
Repeat until it is the right size.
Same order with the woof.
Weave the woof the same as the
warp.

74. Bead Chains, Belts, Purses, Etc.

Material—Loom, No. 100 linen thread, No. 12 crewel needle, and small beads.

The chains are made in different widths, some being only three beads wide, while others are five, seven, or nine beads in width, according to the fancy of the maker.

Always string the loom with one thread more than the number of beads in the width of the chain.

If you wish a chain 60 inches long and five beads wide, adjust your loom so that the distance around it will be 60 inches.



Bead chains and belt

Fourth or Fifth Year Work

Wind six times around the loom, beginning at the bottom. Have seven threads in front of the loom, as one of the threads is used as the weaver. Take the thread at the left. Thread it into a No. 12 crewel needle. String five beads and put the thread *under* the warp threads, about half-way up the loom, having the thread that is strung for the left warp thread. Do not use the last thread on the right.

Bring one bead up between each warp thread with a thread on the outside. Then put the needle through the beads again from the right, and *above* each warp thread, and pull it tight.

String more beads, and proceed as before. Great care must be taken to put the thread first under, then over, the warp threads.

When the weaver is nearly used, fasten it by sewing it back and forth through two or three rows.

Now take the thread left at the right and bring it through the first row woven. This will bring the thread to the left, and you are ready to weave as before. This makes a little unevenness at the joining, but it saves tying the threads.

Begin a new thread by putting it through two or three rows.

It is very easy to weave in the pattern, and children have no trouble in making the chains.



Bead chain and loom

Industrial Work

Bead belts are woven in great variety, as are also watch fobs, purses, bags, etc.

GENERAL WORK

Many lines of work not mentioned in this course should be given in these grades. Always consider the needs of the pupils, and try to meet them in the best way.

“To love what one commands himself to do is to endow it with that magnetism and vitality which insures success. To command one's self to do without loving, is mechanism and generates no power.”

Two thirsty travelers chanced one day to meet
Where a spring bubbled from the burning sand ;
One drank out of the hollow of his hand,
And found the water very cool and sweet,
The other waited for a smith to beat
And fashion for his use a golden cup ;
And while he waited, fainting in the heat,
The sunshine came and drank the fountain up !

—From “Hints,” by Alice Cary.



A solid raffia basket



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INFORMATION CONCERNING MATERIALS

German knitting yarn costs about 90 cents per pound, and one pound will make thirty-six bed blankets.

Double fold Germantown yarn costs about \$1.50 per pound, and one pound will make forty-eight holders, 6x6 inches.

Colored folding paper can be obtained of The Thomas Charles Company, Chicago, Ill., at very reasonable rates, or it can be cut and put up in packages at any paper factory.

Weaving strips can be cut at any paper factory or printing office.

White raffia costs from 15 cents to 20 cents per pound, and can be purchased of the following firms:

R. & J. Farquhar & Co., *Boston, Mass.*

Vaughan's Seed Store, *New York and Chicago.*

J. M. Thorburn & Co., *New York City.*

Northrup, King & Co., *Minneapolis, Minn.*

Schissler, Corneli Seed Co., *St. Louis, Mo.*

Milton Bradley & Co., *Springfield, Mass.*

C. C. Morse & Co., *San Francisco, Cal.*

The Thomas Charles Company, *Chicago, Ill.*

Raffia is sold by all florists, and at many seed stores.

Colored raffia costs from 40 to 50 cents per pound. It can be purchased of the following firms:

Northrup, King & Co., *Minneapolis, Minn.*

Milton Bradley & Co., *Springfield, Mass.*

Vaughan's Seed Store, *New York and Chicago.*

Rattan is sold by the following firms:

Marshall Field & Co., *Chicago, Ill.*

Industrial Work

Vaughan's Seed Store, *Chicago, Ill.*

Northrup, King & Co., *Minneapolis, Minn.*

Heywood Brothers and Wakefield Co., *Wakefield, Mass.*

U. S. Rattan Co., *New York and Chicago.*

Rattan is also sold at many curio stores on the Pacific Coast. One pound will make about one dozen small baskets or mats.

Carpet warp costs about 25 cents per pound, and one pound will string fifty looms.

Splint and sweet grass can be purchased of Milton Bradley & Co., *Springfield, Mass.*, and of Geo. D. Mitchell, *Old Town, Maine.*

Weaving needles cost about \$4 per thousand. Queen's crewel tapestry needles cost about \$1.50 per thousand.

Hammock twine can be purchased of American Net & Twine Co., *Boston, Mass.*, and of Todd & Todd, *Minneapolis, Minn.* One pound (12 lay) will make four hammocks, and cost about 25 cents.

Carpet yarn can be purchased of Todd & Todd, 730 East Eighteenth Street, *Minneapolis, Minn.* One pound will make five rugs. Price varies.

Strawboard for looms can be obtained at any paper factory or store. One package of 8x8 inch looms (fifty in a package) should cost about 15 cents.

The Todd adjustable hand loom can be purchased of Todd & Todd, 40 South 8th Street, *Minneapolis, Minn.*

Beads for chains can be purchased at any large dry goods or fancy goods store in bunches or by the ounce.

Pillow looms and chains looms are easily made, and children should be encouraged to make their own.

A LIST OF BOOKS ON INDUSTRIAL WORK

- ALBEE, MRS. HELEN R. Abnakee Rugs. *Boston: The Riverside Press.*
 ——— Mountain Playmates. *Boston: Houghton, Mifflin & Co.*
 ASHENHURST, THOMAS R. Designs in Textile Fabrics. *London: Cassell & Co.*
 ——— Weaving and Designing of Textile Fabrics. *London: Simpkin, Marshall & Co.*
 BATES, LOIS. Kindergarten Guide. *New York: Longmans, Green & Co.*
 BIRDWOOD, SIR GEORGE. Industrial Arts of India. *London: Chapman & Hall.*
 BOWER, J. A. How to Make Common Things. *New York: Thomas Nelson & Sons.*
 BRIGGS, E. F. Industrial Training in Reform Institutions. *Syracuse, N. Y.: C. W. Bardeen.*
 CUTTER, F. C. Primary Manual Training. *Chicago: Educational Publishing Co.*
 FIRTH, ANNIE. Cane Basket Work. *London: L. Upcott Gill. New York: Charles Scribner's Sons.*
 GURDJI, V. Oriental Rug-Weaving. *New York: F. Tennyson Neely Co.*
 HAM, C. H. Mind and Hand. *New York: American Book Co.*
 HOLT, ROSA BELLE. Rugs: Oriental and Occidental. *Chicago: A. C. McClurg & Co.*
 How to Make and How to Mend. (Directions for dyeing.) *New York: The Macmillan Co.*
 JAMES, GEORGE WHARTON. Indian Basketry. *New York: Henry Malkan.*
 JAPP, A. H. Days with Industrials. *New York: Charles Scribner's Sons.*

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- KENYON, W. J. First Years in Handicraft. *New York: Baker & Taylor Co.*
- KILBON, G. B. Knife Work in the Schoolroom. *Springfield, Mass.: Milton Bradley Co.*
- KNAPP, ELIZABETH S. Raffia and Reed Weaving. *Springfield, Mass.: Milton Bradley Co.*
- KRAUS, BOELTE MME. Kindergarten Guide. *New York: Steiger & Co.*
- MASON, O. T. Woman's Share in Primitive Culture. *New York: D. Appleton & Co.*
- MORRIS, WILLIAM. Some Hints on Pattern Designing. *New York: D. Appleton & Co.*
- MUMFORD, J. K. Oriental Rugs. *New York: Charles Scribner's Sons.*
- MURRAY, W. Handbook for Teachers. *Rochester, N. Y.: Mechanics' Institute.*
- PETERS, C. Home Handicrafts. *New York: Fleming H. Revell & Co.*
- How to Make Common Things. *New York: Fleming H. Revell & Co.*
- SEDDING, J. Art and Handicraft. *New York: Charles Scribner's Sons.*
- SEIDEL, R. Industrial Instruction. *Boston: D. C. Heath & Co.*
- SHELDON, WILLIAM E., and others. Illustrated Lessons with Paper Folding. *Springfield, Mass.: Milton Bradley Co.*
- SIMMONDS, P. Useful Animals and Their Products. *New York: Spon & Chamberlain.*
- SUTCLIFFE, J. D. Handcraft. *New York: Maynard, Merrill & Co.*
- TODD, MATTIE P. Hand Loom Weaving. *Chicago: Rand, McNally & Co.*
- WALKER, LOUISA. Varied Occupations in String Work; comprising Knotting, Netting, Looping, Plating, and Macramé. *New York: The Macmillan Co.*
- Varied Occupations in Weaving. *New York: The Macmillan Co.*
- WHEELER, MRS. CANDACE. Home Industries and Domestic Weavings. *New York: Associated Artists, 115 East Twenty-third Street.*
- WHITE, MARY. How to Make Baskets. *New York: Doubleday, Page & Co.*
- WORST, EDWARD F. Construction Work. *Chicago: W. Mumford.*

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